

**AMENDMENTS TO THE DRAWINGS**

Please replace the original Drawing Sheets showing Figures 1-18 in the present application with the attached Replacement Drawing Sheets showing Figures 1-18 with proper labeling.

Attachment: Sixty-two (62) Annotated Sheets Showing Changes

Sixty-two (62) Replacement Drawing Sheets

**REMARKS**

In response to the Notice to File Corrected Application Papers – Notice of Allowance Mailed (the “Notice”) dated August 4, 2009, a copy thereof is attached, Applicants hereby submit Annotated Sheets Showing Changes and Replacement Drawing Sheets containing Figures 1-18 in the present application. According to the Notice, Figures 13A, 13B, 13C, 13D, 15, 16 and 17 as originally submitted are continue over several pages without proper labeling as continuation. The Replacement Drawing Sheets containing Figures 13A, 13B, 13C, 13D, 15, 16 and 17 submitted herewith correct the aforementioned defects. Furthermore, because the total number of the drawing sheets has changed in view of the amendment made to Figure 16 in the Response dated October 24, 2007, Applicants submit herewith a complete set of the drawings that reflects the correct numbering of the Drawing Sheets. A set of Annotated Sheets Showing Changes is also enclosed to show the changes made in each drawing. In view of the present amendment, Applicants believe that the application is in compliance with 37 CFR § 1.84 and 37 CFR § 1.121(d). No new matter has been added in the Replacement Drawing Sheets submitted herewith.

This response is filed within the two-month period for response from the mailing of the Notice. No fee is believed due. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13477-00002-US from which the undersigned is authorized to draw.

Respectfully submitted,

By /s/ Hui-Ju Wu  
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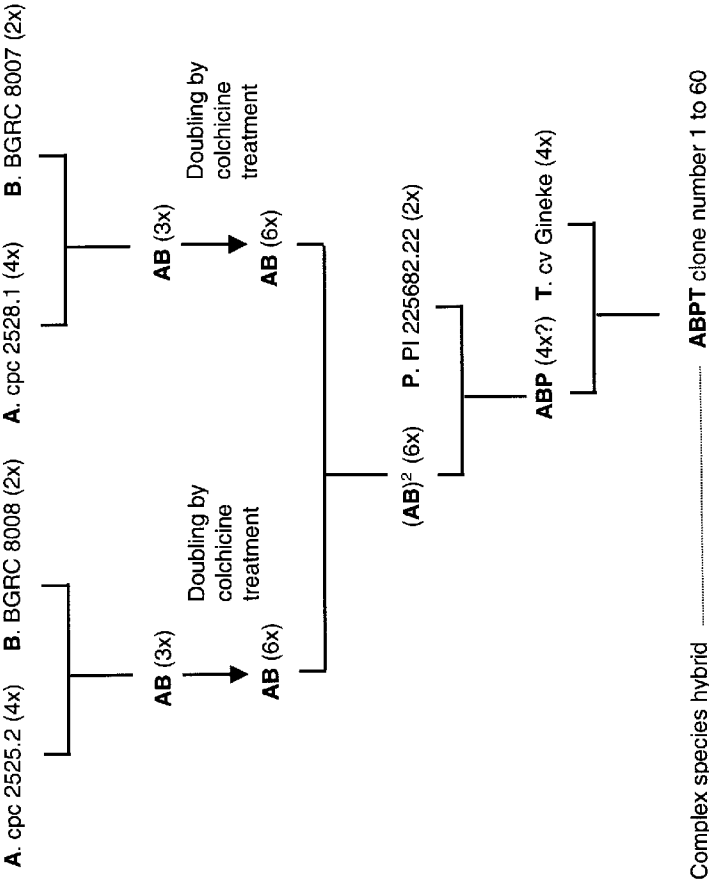


Figure 1A

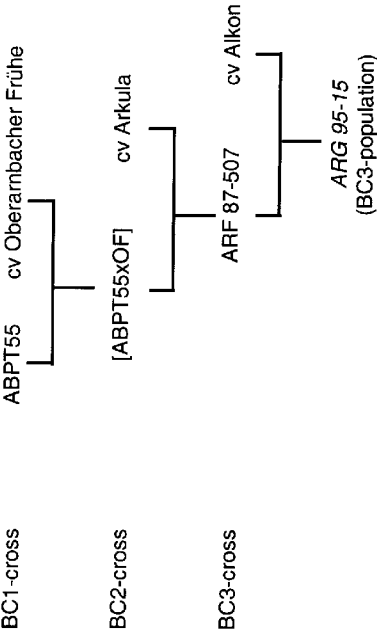


Figure 1B

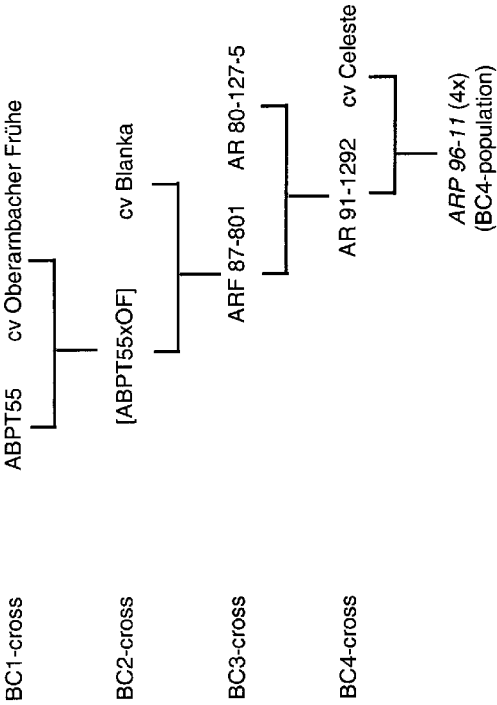


Figure 1C

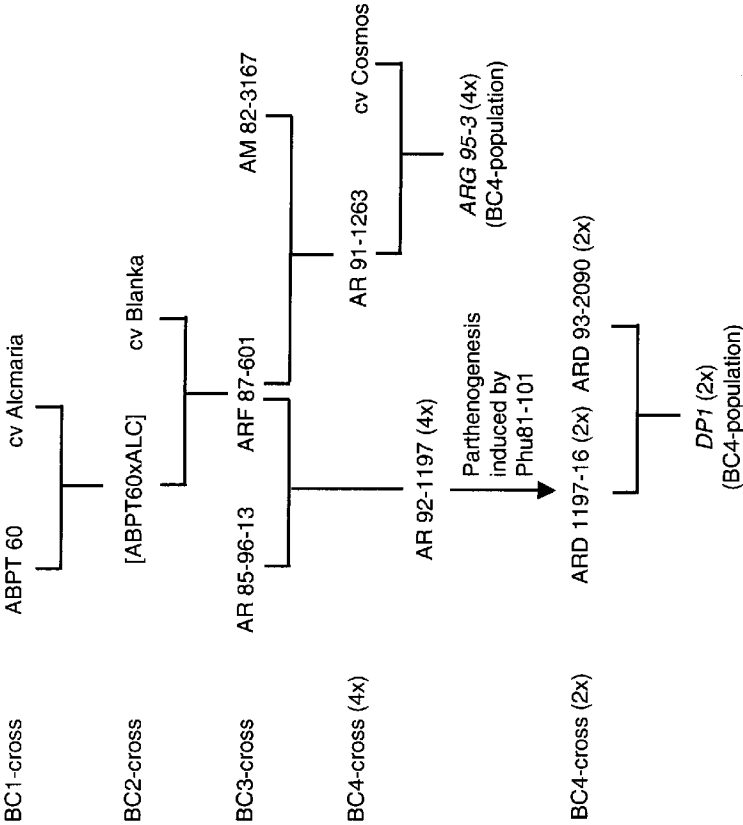
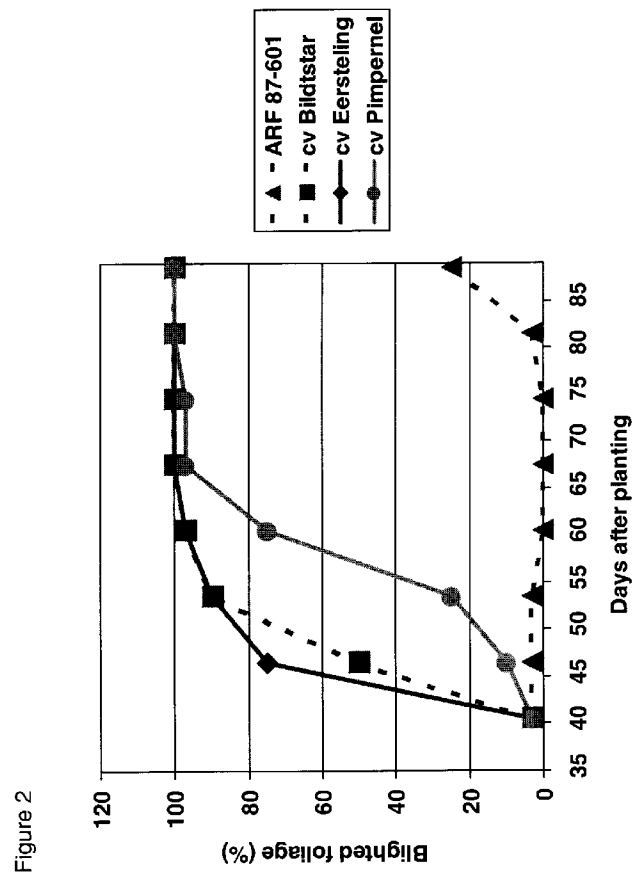


Figure 1D

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6/51 6/62

Figure 3

\* ARF 87-507 and ARF 87-601 had identical disease progress curves

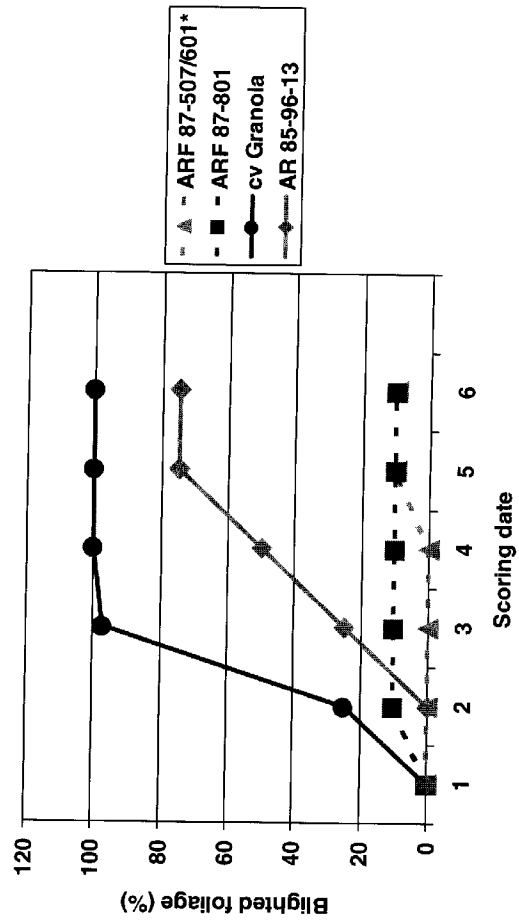




Figure 4

8/51 8/62



Figure 4 dia 3

9/51 9/62



Figure 4 dia 4

~~10/51~~ 10/62

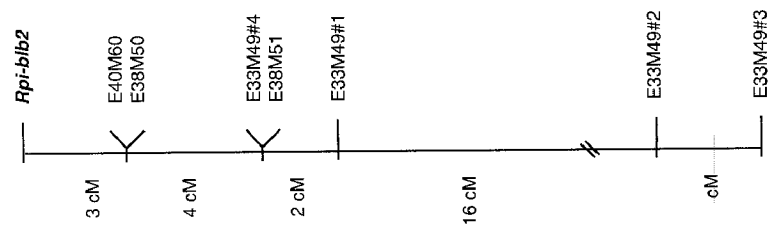


Figure 4 dia 5



Figure 4 dia 6

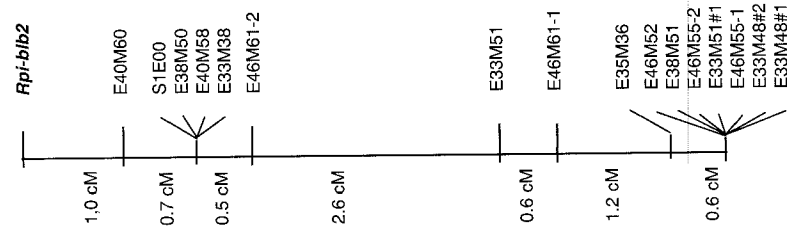
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ARG 95-15

Figure 5

~~13/51~~ 13/62



ARG 95-3

Figure 6

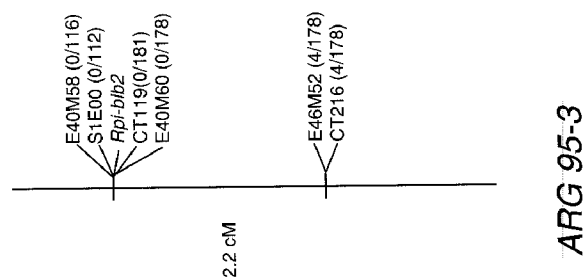


Figure 7

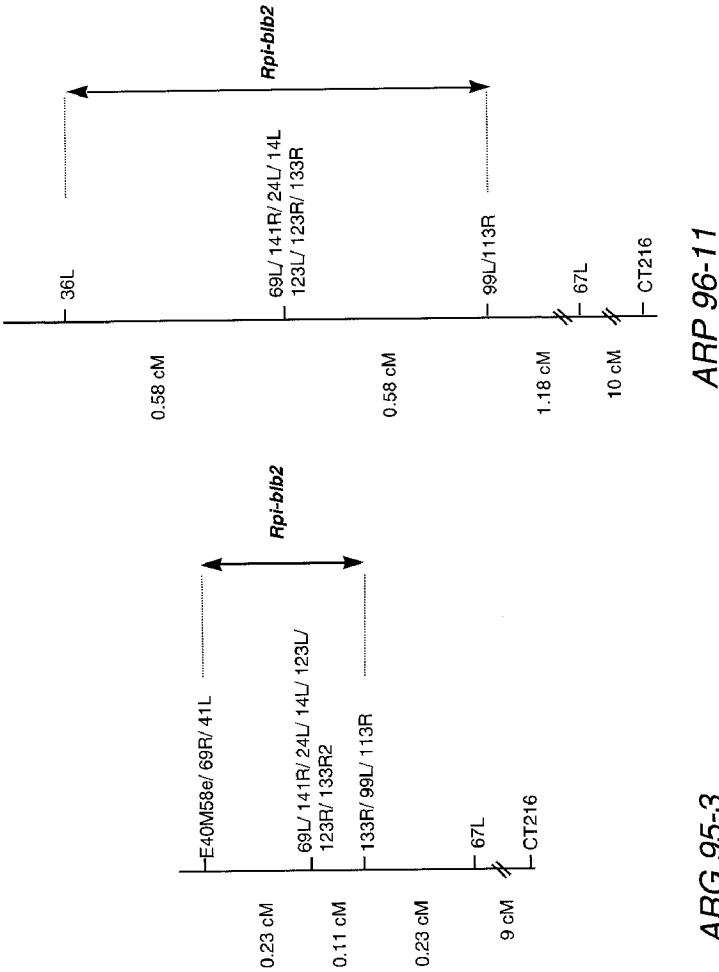


Figure 8



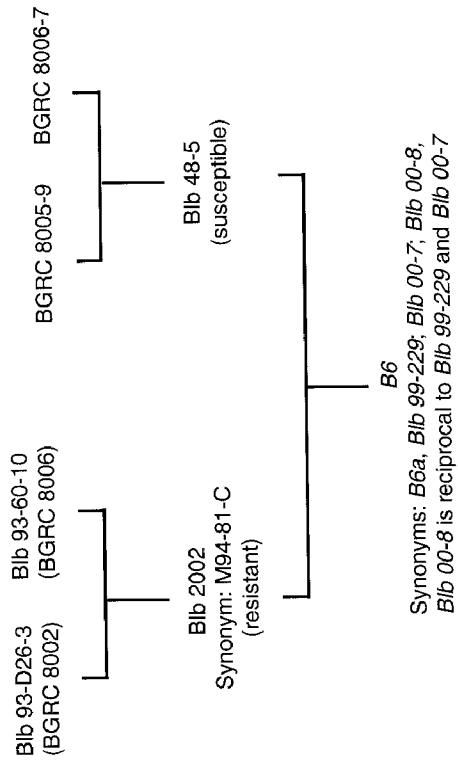


Figure 10

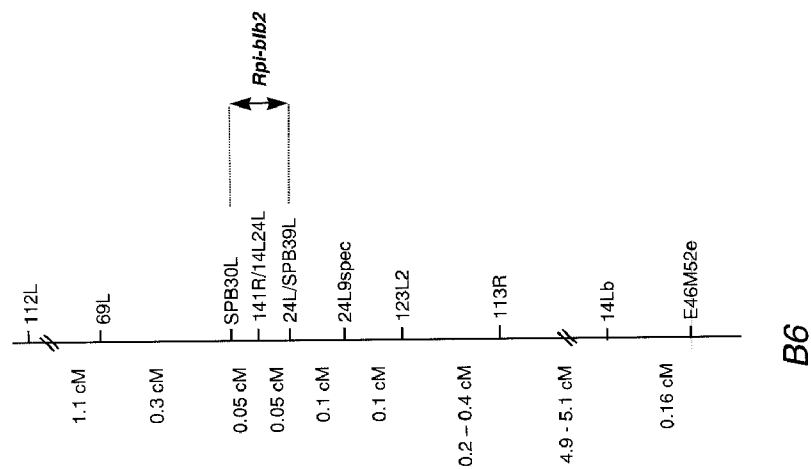


Figure 11

~~19/51~~ 19/62

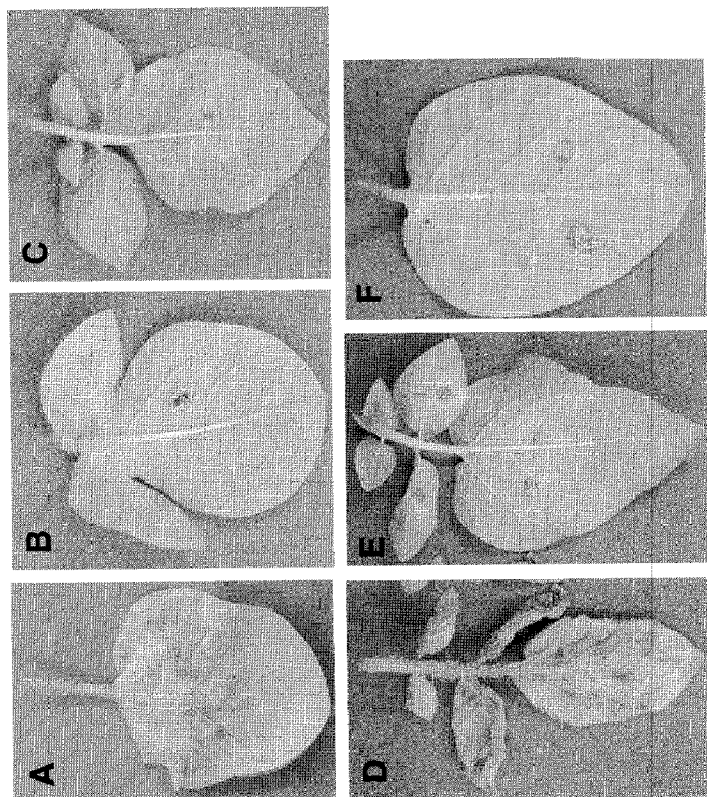


Figure 12

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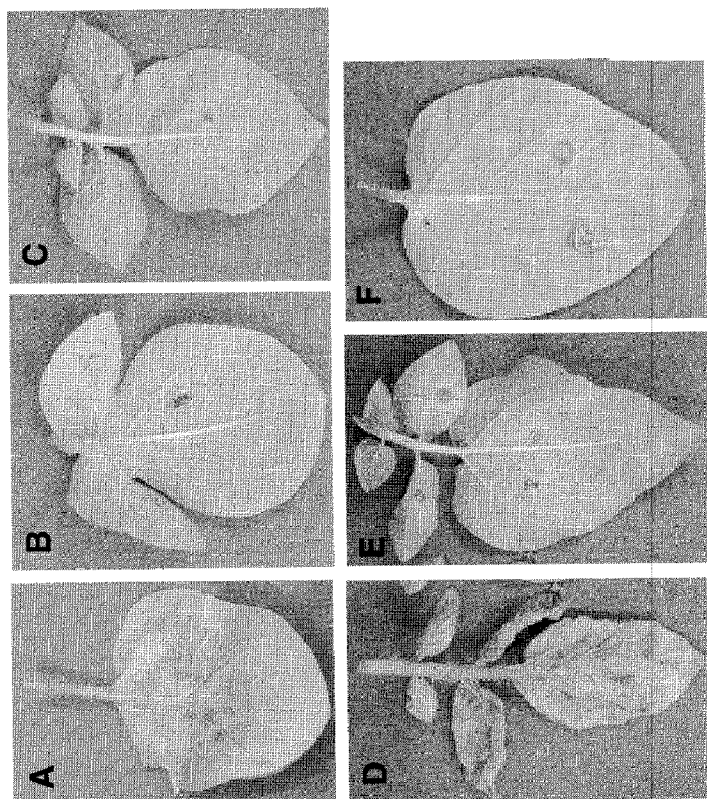


Figure 12 dia2

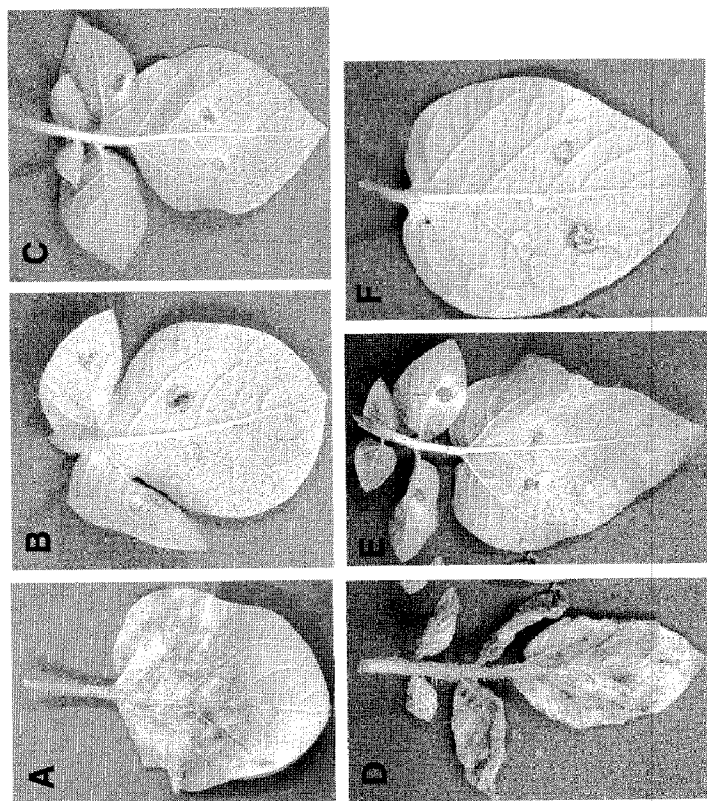


Figure 12 dia 3

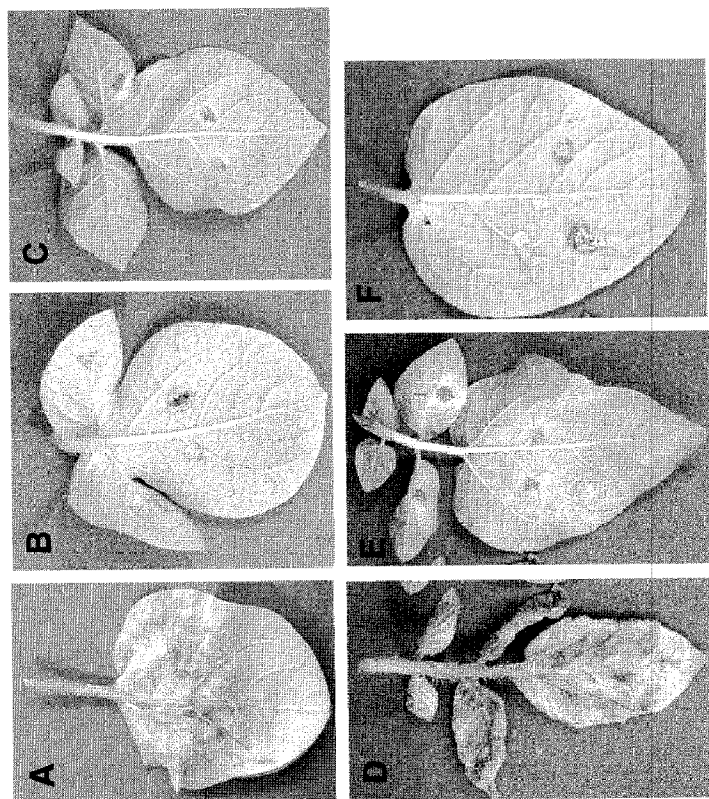


Figure 12 dia 4

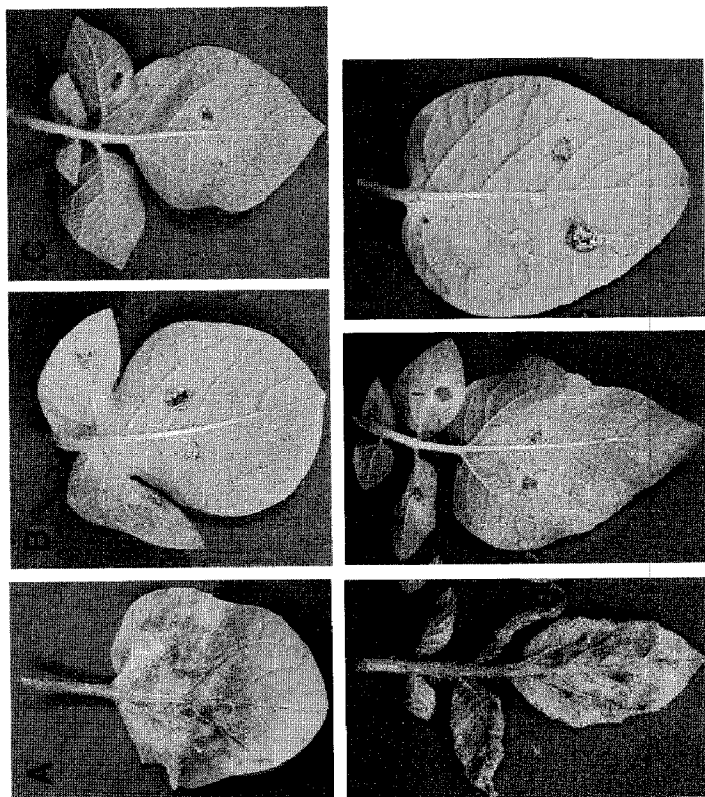


Figure 12 dia 5

~~24/51~~ 24/62

Figure 13A

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CTGAAATTGAAGCTGACATTTATTTGTACATATGTCCAGCTTTCTTATTC 200
CGATTTGGAGAAGTTTGAAGATATAATGACTAGAAAAGACAAGAGGTTG 250
AGAATCTGCTTCAACCAATTTTGGATGATGATGGCAAAGACGTCGGGTGT 300
AAATATGTCCTTACTAGCCTCGCCGGTAATATGGATGACTGTATAAGCTT 350
GTATCATCGTTCTAAATCAGATGCCACCATGATGGATGAGCAATTGGGCT 400
TCCTCCTCTTGAATCTCTCTCATCTATCCAAGCATCGTGCTGAAAAGATG 450
TTTCCTGGAGTGACTCAATATGAGGTTCTTCAGAATGTATGTGGCAACAT 500
AAGAGATTTCCATGGATTGATAGTGAATTGTTGCATTAAGCATGAGATGG 550
TTGAGAATGTCTTATCTCTGTTTCAACTGATGGCTGAGAGAGTAGGACGC 600
TTCCTTTGGGAGGATCAGGCTGATGAAGACTCTCAACTCTCCGAGCTAGA 650
TGAGGATGATCAGAATGATAAAGACCCTCAACTCTTCAAGCTAGCACATC 700
TACTCTTGAAGATTGTTCCAACCTGAATTGGAGGTTATGCACATATGTTAT 750
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ATTCATGTCATGATGGAATTCCTATTGATTATTCTTTCTGATATGCCGCC 950
CAAGGACTTTATTTCATCATGACAAACTTTTTGATCTCTTGGCTCGTGTTG 100
TAGCACTTACCAGGGAGGTATCAACTCTTGACGCGACTTGGAAGAGAAA 1050
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TCTGGAATAATTGAACTCCTTAAGGAAGATCTCAAACATGTTTATCTGA 1150
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TTACATGAGAACATTTCCAAGAACAGAGGTCTCATCGTTGTGAACCTCTCC 1550
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GTTTTGGTGAGGAGACAACTTGATACTTAGAAAGCTCACCAGTGGACCG 1650
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Figure 13A (cont.)

GCAGATCTAGATGTCATTTTCGATCATTTGGTATGCCGGGTTTAGGTAAAAC 1700  
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ACCTTCGTGCATGGTGCACGGTCGACCAAGTATATGACGAGAAGAAGTTG 1800  
TTGGATAAAATTTTCAATCAAGTTAGTGACTCAAATTCAAAATTGAGTGA 1850  
GAATATTGATGTTGCTGATAAACTACGGAACAATTGTTTGAAAGAGGT 1900  
ATCTTATTGTCTTAGATGACGTGTGGGATACTAATACATGGGATGAGCTA 1950  
ACAAGACCTTTTCCTGATGGTATGAAAGGAAGTAGAATTATTTTGACAAC 2000  
TCGAGAAAAGAAAGTTGCTTTGCATGGAAAGCTCTACACTGATCCTCTTA 2050  
ACCTTCGATTGCTAAGATCAGAAGAAAGTTGGGAGTTATTAGAGAAAAGG 2100  
GCATTTGGAACGAGAGTTGCCCTGATGAACTATTGGATGTTGGTAAAGA 2150  
AATAGCCGAAAATTGTAAAGGGCTTCCTTTGGTGGTGGATCTGATTGCTG 2200  
GAATCATTGCTGGGAGGGAAAAGAAAAGAGTGTGTGGCTTGAAGTTGTA 2250  
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TATAGAAATAAGTTATGACCACTTACCTGATCACCTGAAGCCATGCTTGC 2350  
TGTACTTTGCAAGTGCGCCGAAGGACTGGGTAACGACAATCCATGAGTTG 2400  
AAACTTATTTGGGGTTTTGAAGGATTTGTGGAAAAGACAGATATGAAGAG 2450  
TCTGGAAGAAGTGGTGAAAATTTATTTGGATGATTTAATTTCCAGTAGCT 2500  
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TGATCGGATAAGTTCAAGTGCTCCATCAGATTTGTTGCCACGTCAAATTA 2650  
GCATTGATTATGATGATGATGAAGAGCACTTTGGGCTTAATTTTGTCTG 2700  
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CATAAATGGAGATGAGCTGGACGACCATCTTTCTGATACATTTTCATCTAA 2800  
GACACTTGAGGCTTCTTAGAACCTTGACCTGGAATCCTCTTTTATCATG 2850  
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CTTAAGCATTGGGACAGAAGTTAAATCTCTGCCTTTGTCTTTCTCAAACC 2950  
TCTGGAATCTAGAAATCTTGTGTTGTGGATAACAAAGAATCAACCTTGATA 3000  
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TGCTTGTTCTTTCTTTGATATGGATGCAGATGAATCAATACTGATAGCAG 3100  
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GCTTCATTTCAACTCAAGGAGTCATGGGATTATTCAACAGAGCAATATT 3250  
GGTTCCCGAAATTGGATTTCCTAACTGAACTAGAAAACTCACTGTAGAT 3300  
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GCCATGGGATTTTCACTTTCCTTCGAGTTTGAAAAGATTGCAATTGCATG 3400

Figure 13A (cont.)

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AAGTGATTCTTTCCAAGTGGGAGGTTGGAGAGGAATCTTTTCCACGCTT 3600
GAGAAATTAGAACTGTCGGACTGTCATAATCTTGAGGAGATTCCGTCTAG 3650
TTTTGGGGATATTTATTCCTTGAAAATTATCGAACTTGTAAGGAGCCCTC 3700
AACTTGAAAATTCGCTCTCAAGATTAAGGAATATGCTGAAGATATGAGG 3750
GGAGGGGACGAGCTTCAGATCCTTGCCAGAAGGATATCCCGTTATTTAA 3800
GTAG 3804
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~~27/51~~ 27/62

Figure 13B

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ATGGAAAAACGAAAAGATAATGAAGAAGCAAACAACCTCATTGGTATGTTA 50
TTTGATAGAGTGAACGTAAAGTATTGAATTGTAGATATCATGTGGCTTT 100
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GATCAAAAGGCTGTTGATGTGGATCTGATTGAAAGCCTGAAATTGAAGCT 2501
GACATTTATTTGTACATATGTCCAGCTTTCTTATTCGATTTGGAGAAGT 3001
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CCAATTTTGGATGATGATGGCAAAGACGTCGGGTGTAAATATGTCCTTAC 4001
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TCAGGCTGATGAAGACTCTCAACTCTCCGAGCTAGATGAGGATGATCAGA 7501
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GTTCCAACCTGAATTGGAGGTTATGCACATATGTTATAAAACCTTGAAAGC 8501
TTCAACTTCAACAGAAATTGGACGCTTCATTAAGAAGCTCCTGGAAACCT 9010
CTCCGGACATTCTCAGAGAATATCTGATTCATCTACAAGAGCATATGATA 9510
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GGAATTCCTATTGATTATTCTTTCTGATATGCCGCCCAAGGACTTTATTC 1050
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GAGGTATCAACTCTTGTACGCGACTTGGAAGAGAAATTAAGGATTAAGA 1150
GAGTACTGACGAAACAAATTGTGCAACCCTAAAGTTTCTGAAAAATATTG 1200
AACTCCTTAAGGAAGATCTCAAACATGTTTATCTGAAAGTCCCGGATTCA 1250
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ACAGAGACACTTAGATGATTTGCTGGATTCCAATGCTTATTCAATTGCTT 1350
TGATAAAGGAACAAATTGGGCTGGTGAAAGAAGACTTGGAATTCATAAGA 1400
TCTTTTTTCGCGAATATGAGCAAGGATTGTATAAAGATCTCTGGGAACG 1450
TGTTCTAGATGTGGCATATGAGGCAAAAGATGTCATAGATTCAATTATTG 1500
TTCGAGATAATGGTCTCTTACATCTTATTTCTCACTCCCATTACCAGA 1550
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TTCCAAGAACAGAGGTCTCATCGTTGTGAACTCTCCAAGAAACCAGTTG 1650
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Figure 13B (cont.)

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ACAAACTTGATACTTAGAAAGCTCACCAGTGGACCGGCAGATCTAGATGT 1750  
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AAGTATACAATGATAAATCAGTTTCTAGCCATTTTCGACCTTCGTGCATGG 1850  
TGCACGGTCGACCAAGTATATGACGAGAAGAAGTTGTTGGATAAAATTTT 1900  
CAATCAAGTTAGTGACTCAAATTCAAAATTGAGTGAGAATATTGATGTTG 1950  
CTGATAAACTACGGAAACAATTGTTTGAAAGAGGTATCTTATTGTCTTA 2000  
GATGACGTGTGGGATACTAATACATGGGATGAGCTAACAAGACCTTTTCC 2050  
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TTGCTTTGTCATGGAAAGCTCTACACTGATCCTCTTAACCTTCGATTGCTA 2150  
AGATCAGAAGAAAGTTGGGAGTTATTAGAGAAAAGGGCATTTGGAACGA 2200  
GAGTTGCCCTGATGAAC TATTGGATGTTGGTAAAGAAATAGCCGAAAATT 2250  
GTAAAGGGCTTCCTTTGGTGGTGGATCTGATTGCTGGAATCATTGCTGGG 2300  
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GCGCCGAAGGACTGGGTAACGACAATCCATGAGTTGAAACTTATTTGGGG 2500  
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Figure 13B (cont.)

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CCTTTATCGTACAATCATCCATGGGGAAGAATGGAACATGGGAGAAGAAG 3600
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AAGTGGGAGGTTGGAGAGGAATCTTTCCACGCTTGAGAAATTAGAACT 3700
GTCGGACTGTCATAATCTTGAGGAGATTCCGTCTAGTTTGGGGATATTT 3750
ATTCCTTGAAAATTATCGAACTTGTAAGGAGCCCTCAACTTGAAAATTCC 3800
GCTCTCAAGATTAAGGAATATGCTGAAGATATGAGGGGAGGGGACGAGCT 3850
TCAGATCCTTGCCAGAAGGATATCCCGTTATTTAAGTAG 3890
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Figure 13C

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GATCTAGAATCACCGAACCTCCCCTCGGTACAGCTCCTCCAGTTCTACCA 50
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TCTATGCTCAAAAAATCCCGAGATAAAACCCCTAGATCTGCTTCAAATGCT 150
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TTGAACTCATGAACCAAATGAATGAAAAAATAATGAGAAGAACTATAC 300
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GATTATTCTTATCATTTTCATCTTCTTCTCCTGATAAAGTTTTATGTACT 1500
TTTTATGCATCAGGTCTTGAGAAC TTGGAAGGAAAAGTAGAATCATGGGA 1550
AAAACGAAAAGATAATGAAGAAGCAACAACCTCATTTGGTATGTTATTTGA 1600
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Figure 13C (cont.)

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GATATAATGACTAGAAAAAGACAAGAGGTTGAGAATCTGCTTCAACCAAT 1900  
TTTGGATGATGATGGCAAAGACGTCGGGTGTAAATATGTCTTACTAGCC 1950  
TCGCCGGTAATATGGATGACTGTATAAGCTTGTATCATCGTTCTAAATCA 2000  
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GTTTCAACTGATGGCTGAGAGAGTAGGACGCTTCCTTTGGGAGGATCAGG 2250  
CTGATGAAGACTCTCAACTCTCCGAGCTAGATGAGGATGATCAGAATGAT 2300  
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CTTGATACTTAGAAAGCTCACCAGTGGACCGGCAGATCTAGATGTCATTT 3300  
CGATCATTGGTATGCCGGGTTTAGGTAAACTACTTTGGCGTACAAAGTA 3350  
TACAATGATAAATCAGTTTCTAGCCATTTGACCTTCGTGCATGGTGCAC 3400

Figure 13C (cont.)

```
GGTCGACCAAGTATATGACGAGAAGAAGTTGTTGGATAAAATTTTCAATC 3450
AAGTTAGTGACTCAAATTCAAAATTGAGTGAGAATATTGATGTTGCTGAT 3500
AAACTACGGAAACAATTGTTTGGAAAGAGGTATCTTATTGTCTTAGATGA 3550
CGTGTGGGATACTAATACATGGGATGAGCTAACAAGACCTTTTCCTGATG 3600
GTATGAAAGGAAGTAGAATTATTTTGACAACCTCGAGAAAAGAAAGTTGCT 3650
TTGCATGGAAAGCTCTACACTGATCCTCTTAACCTTCGATTGCTAAGATC 3700
AGAAGAAAGTTGGGAGTTATTAGAGAAAAGGGCATTGGAACGAGAGTT 3750
GCCCTGATGAAGTATTGGATGTTGGTAAAGAAATAGCCGAAAATTGTAAA 3800
GGGCTTCCTTTGGTGGTGGATCTGATTGCTGGAATCATTGCTGGGAGGGA 3850
AAAGAAAAAGAGTGTGTGGCTTGAAGTTGTAAATAATTTGCATTTCCTTA 3900
TTTTGAAGAATGAAGTGAAGTGATGAAAGTTATAGAAATAAGTTATGAC 3950
CACTTACCTGATCACCTGAAGCCATGCTTGCTGTACTTTGCAAGTGCGCC 4000
GAAGGACTGGGTAACGACAATCCATGAGTTGAACTTATTTGGGGTTTTG 4050
AAGGATTTGTGGAAGACAGATATGAAGAGTCTGGAAGAAGTGGTGAAA 4100
ATTTATTTGGATGATTTAATTTCCAGTAGCTTGGTAATTTGTTTCAATGA 4150
GATAGGTGATTACCTACTTGCCAACTTCATGATCTTGTGCATGACTTTT 4200
GTTTGATAAAAGCAAGAAAGGAAAAGTTGTGTGATCGGATAAGTTCAAGT 4250
GCTCCATCAGATTTGTTGCCACGTCAAATTAGCATTGATTATGATGATGA 4300
TGAAGAGCACTTTGGGCTTAATTTTGTCCTGTTTCGGTTCAAATAAGAAAA 4350
GGCATTCCGGTAAACACCTCTATTCTTTGACCATAAATGGAGATGAGCTG 4400
GACGACCATCTTTCTGATACATTTTCTAAGACACTTGAGGCTTCTTAG 4450
AACCTTGACCTGGAATCCTCTTTTATCATGGTTAAAGATTCTTTGCTGA 4500
ATGAAATATGCATGTTGAATCATTTGAGGTACTTAAGCATTGGGACAGAA 4550
GTTAAATCTCTGCCTTTGTCTTTCTCAAACCTCTGGAATCTAGAAATCTT 4600
GTTTGTGGATAACAAAGAATCAACCTTGATACTATTACCGAGAATTTGGG 4650
ATCTTGTAAGTTGCAAGTGCTGTTACGACTGCTTGTTCTTTCTTTGAT 4700
ATGGATGCAGATGAATCAATACTGATAGCAGAGGACACAAAGTTAGAGAA 4750
CTTGACAGCATTAGGGGAACCTCGTGCTTTCCTATTGGAAAGATACAGAGG 4800
ATATTTTCAAAGGCTTCCCAATCTTCAAGTGCTTCATTTCAAACCTCAAG 4850
GAGTCATGGGATTATTCACAGAGCAATATTGGTTCCCGAAATTGGATTT 4900
CCTAACTGAAGTAAAAAACTCACTGTAGATTTTGAAAGATCAAACACAA 4950
ATGACAGTGGGTCTCTGCAGCCATAAATCGGCCATGGGATTTTCACTTT 5000
CCTTCGAGTTTGAAAAGATTGCAATTGCATGAATTTCTCTGACATCCGA 5050
TTCATATCAACAATAGCGAGACTGCTGAACCTTGAAGAGTTGTACCTTT 5100
ATCGTACAATCATCCATGGGGAAGAATGGAACATGGGAGAAGAAGACACC 5150
```

Figure 13C (cont.)

```
TTTGAGAATCTCAAATGTTTGATGTTGAGTCAAGTGATTCTTTCCAAGTG 5200
GGAGGTTGGAGAGGAATCTTTTCCACGCTTGAGAAATTAGAACTGTCGG 5250
ACTGTCATAATCTTGAGGAGATTCCGCTCTAGTTTTGGGGATATTTATTCC 5300
TTGAAAATTATCGAACTTGTAAGGAGCCCTCAACTTGAAAATCCGCTCT 5350
CAAGATTAAGGAATATGCTGAAGATATGAGGGGAGGGGACGAGCTTCAGA 5400
TCCTTGGCCAGAAGGATATCCCGTTATTTAAGTAGTTTTGAGCATTATG 5450
GTTGAAAAGTAGATTGCACTTTGCTGGGTAGATTGTATATGGTTAAGAAA 5500
ATTCTGTTACAGTTGTTATGAAACATTTTTATTGACTTTTCTGAGTTTC 5550
TTTTAGAAAACCTCAGAACTTTTTAACAAAAATTATAGTTTTTATAAATAC 5600
AATGTGGATTGTGCTTTGGCTGTCCAACCTGGTCTGAAGTCTCATATGCT 5650
CAGAGCACTATCGTTCAACCTCAATCAAGGTACTGATTTAAATGACATC 5700
TATACTACTTTATCACAAACCCAACGAACCTTTCATCTCAAAGCTAGGCC 5750
AGGAAGTGAAGAGGTTGTAGAGAGCTTATAAGCACTCATGACTTCCTTTT 5800
CTCGAACATTCAACCAACGTAGGCTGAAATCCCACTCTGAACGAAAATAA 5850
GTGTTTGTATCAAATTAACCTCTCGTAGTAGAACTGAAATACCTTCT 5900
TCTAAACGTTCAACAAATGGGATTTCCAGCACTCAAAGTGAATGAAAGGT 5950
TCACATTAATCTTCAAAAAGAATTACGACAATTCATGACCACAAGTACAT 6000
TGACAGCACCATTTCAACAGAAGAACAAGTCAATGCTGCATCTTCATCAA 6050
TAATCCGAGTGTCGAACCTCCTTCCTGACACTGTCCTGTATATGTAAAGT 6100
TTCTCAACAGGGCAACTTTCTGGTCTCGTATCTGGATGACCCCTCTCGTC 6150
TATAACTTCAACATTAAGCCCTGGCAACTTCTGGACCAACAGCTTACATG 6200
CTTCAAACTTACTGAACAATTAGACATCCAAAGGGATCGCATTGTCTCC 6250
AGCTTTGCAGCATTAGCCAACAGAGCCTCATCGCCAAAGGGGAGTCTCT 6300
AATCTCGAATTTGAAAAAATTGTTGTTGTATGACTTTCCTCTGACATCCG 6350
ATGCATATCAACAATAGCAAGACTGGAGGTTGGAGAGGAATCCTTTATT 6400
ATACAATCATTCAAGGAGAAGAATGGAACATGGGGGAGGAAGACACTTTT 6450
GAGAATCTGAAATGTGTTAGAGCCACAAGCTACAGAAGTATTGAATTTGT 6500
CATGAATATCAACATCTTCATCCTAGTTAATTCTTTTCAATTTTAAAT 6550
AGACTCTCATTTTAAATCACTAATATTCTTCTATTTGTGACTTCTTTTCTG 6600
CAGGTGGCAACTTTAAATTCATAAAGTATAGGATTGATGACAACTCGAA 6650
AAATATCTTAATGAGGTGAAGTTTGAGCAGTCAGCAGATGGTGGTTCCAA 6700
CTCTAAGTTGACAAGCACATACTATCCCGGAGGGCGATTTCAGCCTGAT 6750
GCATATGGTTAGTGTGGCTAGAGCAGACAGGATGTATTACCTGGATATCT 6800
ACCAAGACGAATCCACAATCAGTTTTATGTCAAGCAATACATGAAGTAAC 6850
TCCCGATAGAACAGTAAAAGCAAGATGTGTAGGTGTATCTCGACTCTAAG 6900
```

Figure 13C (cont.)

```
AGATTGTACATTCTCTTTGAGATTTTACTGCTAATACAAATTTACACC 6950
TCAGAAGCGAATCTAGAATTTCTAGAGCATGAATGCACCACCTAATGAAAG 7000
GAGAAAAAAGGAAGTATGAAGTGGGAATTTGATCCTTGTTTCTAGGTATA 7050
TAAATTTATCATTCAACTATACTTCATTTAGCAAACAACTCTCTTTGCC 7100
ATTATTTCTCAAACAAGGGCTTCTAATATTGCTAAACTAAAGACTGTCAA 7150
AAGGTAAGTTCATCTTCAAACCTCTCTTGTTTACTTTATCTAAAGGGGAAC 7200
TATGAAAAACAAGAAACATCAGGAATGTCCCGTAAACAAAGCAGCCTCAT 7250
GCACAAAACATCCAACGTTGGTAGGATTAATGGAGGGATCGCATCCCAGG 7300
AGGATACTGTAGAAAAATTAGTGGCTTCTTTCACCGCTCAAACCCATGAT 7350
CTATAGGTTACATGGAGACAACCTTTATGGTTGCTCGTAGGCTCCCGTCAA 7400
TTCTCATAAACCACAACACCAAAGTTGCATCAGACATCATCTTCATTAC 7450
AAGCTGACAATCTCCACAAGTCTTAGTCAACTTGTAATATGAATATTAGC 7500
CAGGTAGACGTACATATTTACAAAATTGAGTTTCCTATATAATATGGTTT 7550
GAAGGAATGAAACATGATGGGGAGGGTAGATAAAATAATATATGAGGCAT 7600
AAAAATAGGAAAGATATTTGTAGTGAGAGGTTTTGACTTTTTATGCTGCT 7650
TTTGATCTTCAGTTTCTGTATTCTTTTTCTACTGCTTTCCTCTTCTTTC 7700
TCCTGAGTAAAGTTTTATGTAGGTACTTTTTATACGTCCGATCGTGAGAA 7750
CTTGAAAGAAAGCTCTCTATAGCTATGTTAGGTGCCACATAAAAAAATG 7800
AAATATTACAAAACCCGTGATAATAAAATACACTAATCTAAGATATTAC 7850
TGCAACATACATGCAAAATATATATATATAAATTTTCATGAAAATTATAA 7900
CAAATAATAGATGTGAACATATAACTTTAAAAATAATATTACATCCATAA 7950
AGCTTAAATTCTAGATC 7967
```

Figure 13D

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GATCTGCTTCAAATGCTCTGATACCATGTAATTTTCAGTGAATTCTAACTA 50
AACAAATGGAGAGAATTAACATATTTTAGAAAGACTGATTGAAGGAGAAGAA 100
GAGAGAAAAATTCTATATTGAACTCATGAACCAAATGAATGAAAAAAT 150
AATGAGAAGAACTATACTATTACAATCTATATATCTCTATTTATATTCTA 200
ATCTGAAGCAGTTAATTTAACTGACTCTAACAAC TAGACTGATAGGTGTA 250
CATTTTCTGTTAGTGCAGTGCAGTGCATTTAACTAACTGCTTAACATAAA 300
GAATGTTGTTCTGAAC TTCATTGCAATAGCTTCAATGAGAAGCAAACATGT 350
GTACCTGTAAAGACACACAGTAAAAGTGTTAATAATGAATAAATATGAAT 400
AAATCAAATAATAAATTA AAAAATAAAAACACATCCAATTAACATTGGAGG 450
TCTTGAAAATCGATGGTAATTAACAAAGACCCTTGTGAAATTTAAGTCTG 500
TAATTGAAAATTTGAGTATAGGTTAGGGGACATTTGACTATTTTCTCATT 550
TTCTTTATCTTTTTTCCTAATTTGTGGCAGACAAGTGAGGAGGCCCTG 600
TAATTGATTCATGCTTTTGCTTTTCTTGACTTTTTTGGAAACAATACTATGCA 650
TCATATTTGGTCTTAATTATTCCTCTGTTTATTTCCAGAATTTTGAGCTC 700
TATACATCTAATAACAAAGCAAGCAGAGGATATATAGTTTCATCACTAA 750
AAAGGTTAGTCAACTCATCTAATATTTGCTACTCTCATCTCTATTGAAGT 800
ACAGTTATGGAAGTAGAAGTGATGTAAGAAAAATGAAAGAACTTTAGT 850
AGGTTAGTTGGATCTAACAAAGAGAAAGGGAAATAAATTGCAGGAGAAAG 900
AGAGAGGTTAAATACTTACTCACACCACCGATTTACAACAAATCACTTAA 950
TTGTGGTTAGTTAATGTATACTTTCACCTCATTAAATTATTACTTACCCA 1000
TGATAAGTTGTATTAATTTGGTATTAATATCCGGTGCGGGTGAATTCTTA 1005
CCGGTGAGAGGGATGGGGTTGGAGAGTGTGGAGTGAACAGAAGCAGATG 1100
TTTTAGATTTTTTCTAAGATGACGAAAGATTCCCCCTCACTAATGAAAATA 1150
TATTACTATACGCTATTAGAGATAGAAAGGTTCCGGTACCAGTTGGTCTCG 1200
TTTCTGGATGAACCCCATTTTTACAAGTCATTTTCTTCAATTCAAATCGC 1250
AAGTGACCTTTATCATCTTCCACTAATTAAGTCCTCTTAAGTTCGCGTG 1300
AAAATAGTGAAATTATTGATTATTCTTATCATTTTCATCTTCTTTCTCCTG 1350
ATAAAGTTTATGTACTTTTTATGCATCAGGTCTTGAGAACTTGGAAGG 1400
AAAAGTAGAATCATGGAAAAACGAAAAGATAATGAAGAAGCAAACAAC TC 1450
ATTGGTATGTTATTTGATAGAGTGAAGTGTAAAGTATTGAATTGTAGATA 1500
TCATGTGGCTTTAAAAATTTGATATGTGTTATTTTGGCAGGAGTCATTTT 1550
CTGCTCTTCGCAAGGATGCTGCCAATGTTCTGGATTTCCTAGAGAGATTA 1600
AAGAATGAAGAAGATCAAAGGCTGTTGATGTGGATCTGATTGAAAGCCT 1650
```

Figure 13D (cont.)

GAAATTGAAGCTGACATTTATTTGTACATATGTCCAGCTTTCTTATTCCG 1700  
ATTTGGAGAAGTTTGAAGATATAATGACTAGAAAAAGACAAGAGGTTGAG 1750  
AATCTGCTTCAACCAATTTTGGATGATGATGGCAAAGACGTCGGGTGTAA 1800  
ATATGTCTTACTAGCCTCGCCGGTAATATGGATGACTGTATAAGCTTGT 1850  
ATCATCGTTCTAAATCAGATGCCACCATGATGGATGAGCAATTGGGCTTC 1900  
CTCCTCTTGAATCTCTCTCATCTATCCAAGCATCGTGCTGAAAAGATGTT 1950  
TCCTGGAGTGACTCAATATGAGGTTCTTCAGAATGTATGTGGCAACATAA 2000  
GAGATTTCATGGATTGATAGTGAATTGTTGCATTAAGCATGAGATGGTT 2050  
GAGAATGTCTTATCTCTGTTTCAACTGATGGCTGAGAGAGTAGGACGCTT 2100  
CCTTTGGGAGGATCAGGCTGATGAAGACTCTCAACTCTCCGAGCTAGATG 2150  
AGGATGATCAGAATGATAAAGACCCCTCAACTCTTCAAGCTAGCACATCTA 2200  
CTCTTGAAGATTGTTCCAACCTGAATTGGAGGTTATGCACATATGTTATAA 2250  
AACTTTGAAAGCTTCAACTTCAACAGAAATTGGACGCTTCATTAAGAAGC 2300  
TCCTGGAAACCTCTCCGGACATTCTCAGAGAATATCTGATTCATCTACAA 2350  
GAGCATATGATAACTGTTATTACCCCTAACACTTCAGGGGCTCGAAACAT 2400  
TCATGTCATGATGGAATTCCTATTGATTATTCTTTCTGATATGCCGCCCA 2450  
AGGACTTTATTTCATCATGACAACTTTTTGATCTCTTGGCTCGTGTGTGA 2500  
GCACCTACCAGGGAGGTATCAACTCTTGTACGCGACTTGGAAGAGAAATT 2550  
AAGGATTAAAGAGAGTACTGACGAAACAAATTGTGCAACCCATAAGTTTC 2600  
TGGAATAATTTGAATCCTTAAGGAAGATCTCAAACATGTTTATCTGAAA 2650  
GTCCCGGATTTCATCTCAATATTGCTTCCCCATGAGTGATGGACCTCTCTT 2700  
CATGCATCTGCTACAGAGACACTTAGATGATTTGCTGGATTCCAATGCTT 2750  
ATTCAATTGCTTTGATAAAGGAACAAATTGGGCTGGTGAAAGAAGACTTG 2800  
GAATTCATAAGATCTTTTTTCGCGAATATTGAGCAAGGATTGTATAAAGA 2850  
TCTCTGGGAACGTGTTCTAGATGTGGCATATGAGGCAAAAGATGTCATAG 2900  
ATTCAATTATTGTTTCGAGATAATGGTCTCTTACATCTTATTTTCTCACTT 2950  
CCCATTACCAGAAAGAAGATGATGCTTATCAAAGAAGAGGTCTCTGATTT 3000  
ACATGAGAACATTTCCAAGAACAGAGGTCTCATCGTTGTGAACCTCCTCCA 3050  
AGAAACCAGTTGAGAGCAAGTCATTGACAACTGATAAAATAATTGTAGGT 3100  
TTTGGTGAGGAGACAACTTGATACTTAGAAAGCTCACCAAGTGGACCGGC 3150  
AGATCTAGATGTCATTTGATCATTTGGTATGCCGGGTTTAGGTAAACTA 3200  
CTTTGGCGTACAAAGTATACAATGATAAATCAGTTTCTAGCCATTTTCGAC 3250  
CTTCGTGCATGGTGCACGGTCGACCAAGTATATGACGAGAAGAAGTTGTT 3300  
GGATAAAATTTTCAATCAAGTTAGTGACTCAAATTCAAAATTGAGTGAGA 3350  
ATATTGATGTTGCTGATAAACTACGGAAACAATTGTTTGAAAGAGGTAT 3400

Figure 13D (cont.)

```
CTTATTGTCTTAGATGACGTGTGGGATACTAATACATGGGATGAGCTAAC 3450
AAGACCTTTTCCTGATGGTATGAAAGGAAGTAGAATTATTTTGACAACTC 3500
GAGAAAAGAAAGTTGCTTTGCATGGAAAGCTCTACACTGATCCTCTTAAC 3550
CTTCGATTGCTAAGATCAGAAGAAAGTTGGGAGTTATTAGAGAAAAGGGC 3600
ATTTGGAAACGAGAGTTGCCCTGATGAACTATTGGATGTTGGTAAAGAAA 3650
TAGCCGAAAATTGTAAAGGGCTTCCTTTGGTGGTGGATCTGATTGCTGGA 3700
ATCATTGCTGGGAGGGAAAAGAAAAAGAGTGTGTGGCTTGAAGTTGTAAA 3750
TAATTTGCATTCTTTTATTTTGAAGAATGAAGTGAAGTGATGAAAGTTA 3800
TAGAAATAAGTTATGACCACTTACCTGATCACCTGAAGCCATGCTTGCTG 3850
TACTTTGCAAGTGCGCCGAAGGACTGGGTAACGACAATCCATGAGTTGAA 3900
ACTTATTTGGGGTTTTGAAGGATTTGTGGAAAAGACAGATATGAAGAGTC 3950
TGGAAGAAGTGGTGAATAATTTATTTGGATGATTTAATTTCCAGTAGCTTG 4000
GTAATTTGTTTCAATGAGATAGGTGATTACCCTACTTGCCAACTTCATGA 4050
TCTTGTGCATGACTTTTGTTTGATAAAAGCAAGAAAGGAAAAGTTGTGTG 4100
ATCGGATAAGTTCAAGTGCTCCATCAGATTTGTTGCCACGTCAAATTAGC 4150
ATTGATTATGATGATGATGAAGAGCACTTTGGGCTTAATTTTGTCTGTG 4200
CGGTTCAAATAAGAAAAGGCATTCCGGTAAACACCTCTATTCTTTGACCA 4250
TAAATGGAGATGAGCTGGACGACCATCTTTCTGATACATTTTCATCTAAGA 4300
CACTTGAGGCTTCTTAGAACCTTGACCTGGAATCCTCTTTTATCATGGT 4350
TAAAGATTCTTTGCTGAATGAAATATGCATGTTGAATCATTTGAGGTACT 4400
TAAGCATTGGGACAGAAGTTAAATCTCTGCCTTTGTCTTTCTCAAACCTC 4450
TGGAATCTAGAAATCTTGTGTTGTGGATAACAAAGAATCAACCTTGATACT 4500
ATTACCAGAAATTTGGGATCTTGTAAGTTGCAAGTGCTGTTACGACTG 4550
CTTGTTCTTTCTTTGATATGGATGCAGATGAATCAATACTGATAGCAGAG 4600
GACACAAAGTTAGAGAACTTGACAGCATTAGGGGAACCTCGTGCTTTCTTA 4650
TTGGAAAGATACAGAGGATATTTTCAAAGGCTTCCCAATCTTCAAGTGC 4700
TTCATTTCAAACTCAAGGAGTCATGGGATTATTCAACAGAGCAATATTGG 4750
TTCCCGAAATTGGATTTCTTAACCTGAAGTGAAGAACTCACTGTAGATTT 4800
TGAAAGATCAAACACAAATGACAGTGGGTCTCTGCAGCCATAAATCGGC 4850
CATGGGATTTTCACTTTCTTCGAGTTTGAAAAGATTGCAATTGCATGAA 4900
TTTCTCTGCATCCGATTCATCAACAATAGCGAGACTGCTGAACCT 4950
TGAAGAGTTGTACCTTTATCGTACAATCATCCATGGGGAAGAATGGAACA 5000
TGGGAGAAGAAGACACCTTTGAGAATCTCAAATGTTTGATGTTGAGTCAA 5050
GTGATTCTTTCCAAGTGGGAGGTTGGAGAGGAATCTTTTCCACGCTTGA 5100
GAAATTAGAACTGTCGGACTGTCATAATCTTGAGGAGATTCCGTCTAGTT 5150
```

Figure 13D (cont.)

TTGGGGATATTTATTCCTTGAAAATTATCGAACTTGTAAAGGAGCCCTCAA 5200  
CTTGAAAATTCCGCTCTCAAGATTAAGGAATATGCTGAAGATATGAGGGG 5250  
AGGGGACGAGCTTCAGATCCTTGGCCAGAAGGATATCCCGTTATTTAAGT 5300  
AGTTTTTTGAGCATTATGGTTGAAAAGTAGATTGCACTTTGTCTGGGTAGAT 5350  
TGTATATGGTTAAGAAAATTCTGTTACAGTTGTTATGAAACATTTTTATT 5400  
TGACTTTTCTGAGTTTCTTTTAGAAAACCTCAGAAGTTTTTAACAAAAATT 5450  
ATAGTTTTTATAAATACAATGTGGATTGCTTTGGCTGTCCAACCTGGT 5500  
CTGAAGTCTCATATGCTCAGAGCACTATCGTTCAACCTCAATCAAGGTAC 5550  
TGATTTAAATGACATCTATACTACTTTATCACAACCCAACGAACTTTC 5600  
ATCTCAAAAGCTAGGCCAGGAAGTGAAGAGTTGTAGAGAGCTTATAAGC 5650  
ACTCATGACTTCCTTTTCTCGAACATTCAACCAACGTAGGCTGAAATCCC 5700  
ACTCTGAACGAAAATAAGTGTTTGTATTCAAATTAACCTCTCGTAGTAGA 5750  
ACACTGAAATACCTTCTCTAAACGTTCAACAAATGGGATTTCCAGCACT 5800  
CAAAGTGAATGAAAGGTTACATTAACTTCAAAAAGAATTACGACAATT 5850  
CATGACCACAAGTACATTGACAGCACCATTTCAACAGAAGAACAAGTCAA 5900  
TGCTGCATCTTCATCAATAATCCGAGTGTGGAACCTCCTTCCTGCACTG 5950  
TCCTGTATATGTAAAGTTTCTCAACAGGGCAACTTTCTGGTCTCGTATCT 6000  
GGATGACCCCTCTCGTCTATAACTTCAACATTAAGCCCTGGCAACTTCTG 6050  
GACCAACAGCTTACATGCTTCAAACTTACTGAACAATTAGACATCCAAA 6100  
GGGATCGCATTGTCTCCAGCTTTGCAGCATTAGCCAACAGAGCCTCATCG 6150  
CCAAAGGGGCAGTCTCTAATCTCGAATTTGAAAAAATTGTTGTTGTATGA 6200  
CTTTCCTCTGACATCCGATGCACTATCAACAATAGCAAGACTGGAGGTTG 6250  
GAGAGGAATCCTTTATTATACAATCATTCAGGGAGAAGAATGGAACATGG 6300  
GGGAGGAAGACACTTTTGAGAATCTGAAATGTGTTAGAGCCACAAGCTAC 6350  
AGAAGTATTGAATTTGTCATGAATATCAACATTCTTCATCCTAGTTAATT 6400  
CTTTTTCAATTTTAAATAGACTCTCATTTTAATCACTAATATTCTTCTAT 6450  
TTGTGACTTCTTTTCTGCAGGTGGCAACTTTAAATTCATAAAGTATAGGA 6500  
TTGATGACAACTCGAAAAATATCTTAATGAGGTGAAGTTTGAGCAGTCA 6550  
GCAGATGGTGGTTCCAACCTCTAAGTTGACAAGCACATACTATCCCGGAGG 6600  
GCGATTTCAAGCCTGATGCATATGGTTAGTGTGGCTAGAGCAGACAGGAT 6650  
GTATTACCTGGATATCTACCAAGACGAATCCACAATCAGTTTTATGTCAA 6700  
GCAATACATGAAGTAACTCCCGATAGAACAGTAAAAGCAAGATGTGTAGG 6750  
TGTATCTCGACTCTAAGAGATTGTACATTCTCTTTGAGATTTTTACTGC 6800  
TAATACAAATTTACACCTCAGAAGCGAATCTAGAATTTCTAGAGCATGAA 6850  
TGCACCACTAATGAAAGGAGAAAAAAGGAAGTATGAAGTGGGAATTTGAT 6900

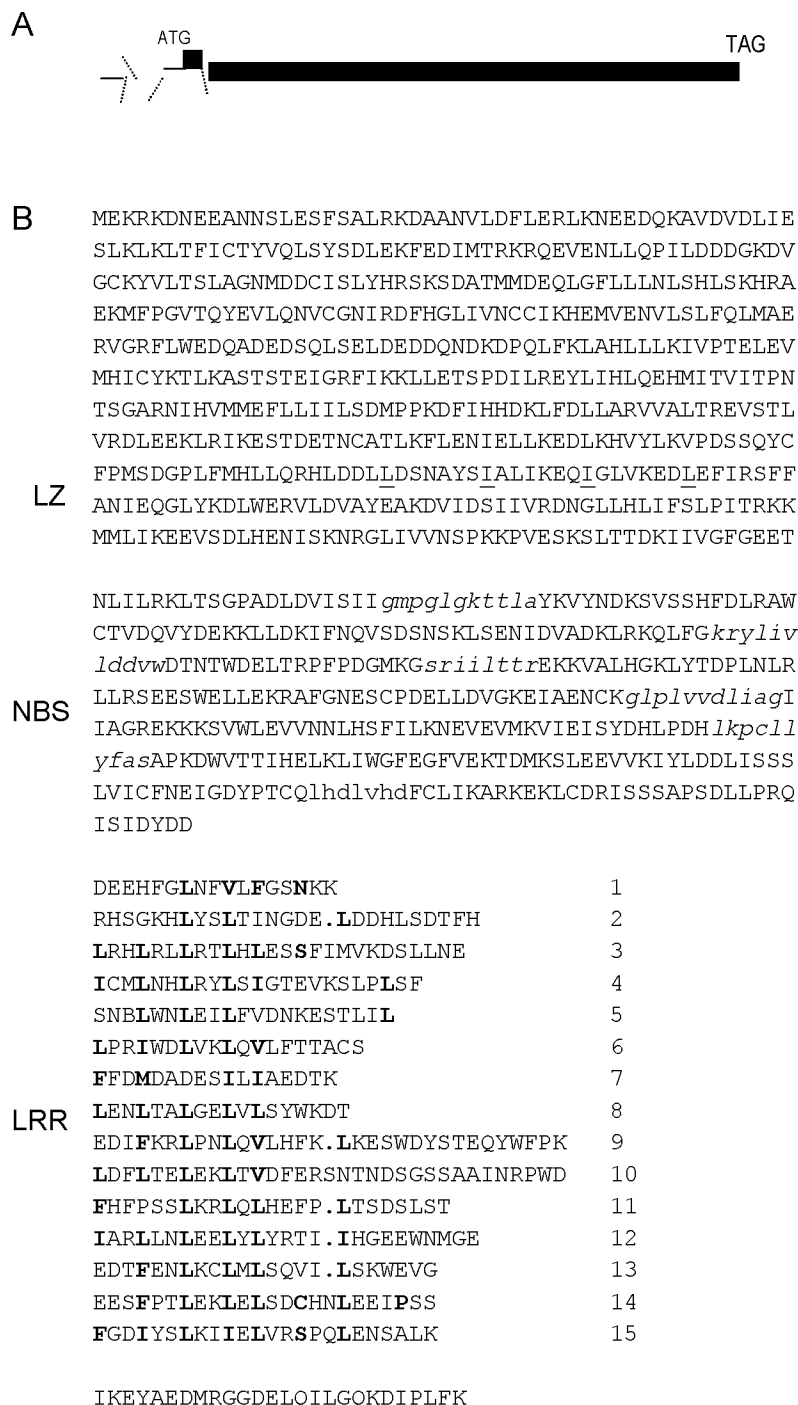
Figure 13D (cont.)

CCTTGTTTCTAGGTATATAAAATTTATCATTCAACTATACTTCATTTAGC 6950  
AAACAACCTCTCTTTGCCATTATTTCTCAAACAAGGGCTTCTAATATTGCT 7000  
AAACTAAAGACTGTCAAAGGTAAGTTCATCTTCAAACCTCTCTTGTTTAC 7050  
TTTATCTAAAGGGGAACATGAAAAACAAGAAACATCAGGAATGTCCCGT 7100  
AAACAAAGCAGCCTCATGCACAAAACATCCAACGTTGGTAGGATTAATGG 7150  
AGGGATCGCATCCCAGGAGGATACTGTAGAAAAATTAGTGGCTTCTTTCA 7200  
CCGCTCAAACCCATGATCTATAGGTTACATGGAGACAACTTTATGGTTGC 7250  
TCGTAGGCTCCCGTCAATTCTCATAAACCACAACACCAAAGTGCATCAG 7300  
ACATCATCTTCATTACAAAGCTGACAATCTCCACAAGTCTTAGTCAACTT 7350  
GTAATATGAATATTAGCCAGGTAGACGTACATATTTACAAAATTGAGTTT 7400  
CCTATATAATATGGTTTGAAGGAATGAAACATGATGGGGAGGGTAGATAA 7450  
AATAATATATGAGGCATAAAAAATAGGAAAGATATTTGTAGTGAGAGGTTT 7500  
TGACTTTTTATGCTGCTTTTGATCTTCAGTTTCTTGTATTCTTTTTCTAC 7550  
TGCTTTCTCTTCTTTCTCCTGAGTAAAGTTTTATGTAGGTACTTTTTAT 7600  
ACGTCCGATCGTGAGAACTTGAAAGAAAGCTCTCTATAGCTATGTTAGGT 7650  
GCCCACATAAAAAAATGAAATATTACAAAACCCTGATAATAAAATACAC 7700  
TAATCTAAGATATTCAC TGCAACATACATGCAAAATATATATATATAAAT 7750  
TTTCATGAAAATTATAACAAATAATAGATGTGAACATATAACTTTAAAAA 7800  
TAATATTACATCCATAAAGCTTAAATTCTAGATCCATCTATGCTTGTATG 7850  
ATGCATAGCTCAGAATATCTCCATCAAGTGTTAAACTACATATTTCATTC 7900  
AAATTTATATAGAAAACGATAATTAAGGTGAAAACTTTATAAAGATATC 7950  
GTGTGGTTGTGTGAGTGAGGTGACAAAATAAGTTGTGTGATTATTCAAAA 8000  
AGTTTTTAATAACGAAAATCCACATGCTTGAATTAATTGAAGCATTAAATGT 8050  
TGTAACGAAAAATATTACATTTATTGAGTTACTGTGATGTTTTAACTGAT 8100  
ATATAAAATAATATTGGTATTTCTCTTCATCTGCGACATAATATGTTTTT 8150  
TCATCTTTTTTCAATATACAAAATAGAATTATTATTTTGTGTCATCTTTT 8200  
TAAGTACAAATATTTCATATGTATATAGTACAAAATAAAATATTTACTGT 8250  
GGTAAAGTAAATGGAATAAGAGGTCATATTTGAAATAACAATATACTATA 8300  
CTATGTTAAAGTATTTTTTATAGTTAAAATTTCTCTAGAGTACTTGATTC 8350  
TACATACAAATACTAATTTTCGTAAAAAATTAATATTGAATTTCTTCATT 8400  
GTTTCTTTATTATTAAATTAGTTTATAATAACTAACTAAGGTAATAAGA 8450  
CCTTAGTTTAGTTAATGTGTGTCTCTGTGATTTTCGTTTCATAGTCTAAGGG 8500  
TGTACTTGTGCCTTATCCCAAAAATGAAGGAATATCAAAGATATATTAA 8550  
AATTAAATTAAATATTTGGAGGTTATGAATATAAAAAGTATCAGAGTTCT 8600  
ACATATAAAGAGTAACAATTGAAATAATTAATTAATATGAGATATGAAG 8650

Figure 13D (cont.)

```
GCGGACATTTAAAGAAAATAATAAATAAATAAATTAAAGGGTATAAATTT 8700
CATAATACATAATACCAATAAGCCGTAGAATATCTCCGTCATAATGCATA 8750
AACTAATAAATCACAAATGTATAACTCACATACAAATATTTTTTGATAAA 8800
GAATTTGAATGTTGTAATAGAATGGAGAATAACTTGTGTCTTATTCCATT 8850
ATGTAAGACGTATAAATACAAATACAATGAGCTCTAATTAATTAAGGAAA 8900
CTAAATAAGGAAGGAATCAAAAAATATTATGTCATATCCCTACATATCTG 8950
CTAGAGATTCTATCATATCCTTACATATCTGTTAAGCTATGTCTACACCT 9000
AAAGGTGTCTACAATCATTTTGTAACTCCCCCTCAAGTTAGAGCATAG 9050
ATATTATTCATTCCCACTTGTACAAAGATAATCAACTCGAGTTCATT 9100
CAACGCTTTTGTGAACAAATCAACTAGTTGCTCTCCTGTCTTCACTTAGC 9150
TAGTGGATATCAGGTTTTCATGAATCTTCTCACGAATAAAATGACAGTCA 9200
ACCTCAATATGTTTAGTTCTTTCATGAGACACCGGATTCAAGGCAATATG 9250
GAGCGCAACTTGATTATCATACTAGAGTTTTGATGGTATATGATGCTTCA 9300
ACCCTATTTCTGTTAAAAGATAATGTATCCACATGATCTCACCCATAGAC 9350
TGTAACATAACTCTGTACTTTGATTCTGCACTAGATCAAGATACAACATT 9400
TTGCTTTTTACTCCTCCATGATACCAGGTTTCATCCAACAAAGACACAAT 9450
AACTTGTTAGTAGATCTTCTATCAATTTTCGATCCAGCCCAATCGACATCT 9500
GCAAAACACTCAATATGAGTATGGTCGTGATTTTGATACTATATTCCAAG 9550
ACTAGGAGTTTTCTTCAAGTAACATAGAATATGTTCCAAAGCTGCCAGT 9600
GTTTGACGTAGGTGCAACATGAAC TAGCTAACAACACTTACTGCAAAAG 9650
CAATATCAAGATGAGTCACAATAAGGTAGTTTAACTTTCCAAC TAACCTT 9700
TTGTATCTCTATGGATCATTAAGGATCGTCGTCATCTTTCATAAGATG 9750
CATATTGGGAACCATTGGAAGTTCAGGGTTTGGCTGCCATCTTCAAT 9800
TTTCTGCAAGTAGATCGAGAGAATATATTCTCTAAGACAAAAGAATTCCC 9850
TTTTTGTTTCTATTTACTTCTACTCCCAAAATGTATTTCAATTGACCCAA 9900
GTCCTTCGTATGAAACCAAGTATGCAGGAAAGACTTGAGGGAAGAGATC 9949
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Figure 14



42/51 42/62

Mil.1		VL	S	I	D	V	---	N	L	K	QV	KI	MA
57													
Mil.2		I	VL	S	I	I	---	N	L	K	QV	KL	MA
57													
Rpi-blb2	MEKRKDNEEANN	SLESP	SALRK	DAANV	LDFLER	LKNEED	QKAVD	VDLIES	SLKL	LTFF	ICT		
60													
Mil.1		C	F	Q				L	-----	F	TS		
109													
Mil.2		Y	F	Q		N		SL	-----		TS		
109													
Rpi-blb2	YVQLSYS	DLEK	FEDIM	TRKR	QEVEN	LLQF	ILDD	GGKIV	GCKY	VLTSL	AGNM	DDCIS	LYHR
120													
Mil.1		Y	I		D		Y	H	I				G
169													
Mil.2		Y	I		D		Y	H	I				LG
169													
Rpi-blb2	S-KSDAT	MMDEQ	LGFLL	LNLSH	LSKH	RAEK	MPF	GV	TQY	EVLQ	NVCG	NIRDF	HGLIV
179													
Mil.1			P		D	H	D	T	R		E	R	SR
229													
Mil.2			P			H		T	R		EH	R	SR
229													Q T
Rpi-blb2	KHEMV	ENVLS	LFQ	MAE	R	VGR	FLW	EDQ	A	DEDS	QLSE	LEDD	QNDK
													PQLFKLAHLLKIV
													239
Mil.1		V	I		TN		A	V	L	Q		P	V
289													S
Mil.2					TN		A	V				I	Q
289													L P S L
Rpi-blb2	PTELEV	MHIC	YKTL	KAST	STEIG	R	FIK	KLLET	SPDIL	REYLI	HLQ	EHMIT	VITP
299													TNTSGAR
Mil.1			L		-				D	GV		EP	N
348													GNNQ
Mil.2			L		-				H	GT		N	GNNQ
348													
Rpi-blb2	NIHV	MME	FLLI	ILSD	MPPK	DFIH	HD	KLF	DL	LLAR	VVAL	TREV	STL
359													VRDLEEXLRIKESTDE
Mil.1			DL			K		AL	C			HI	N
408													
Mil.2			DL			K		A	N	C		HM	N
408													
Rpi-blb2	TNCAT	LK	FLENI	ELLK	EDL	KH	VY	LK	VP	DSS	QYCF	PM	SDG
419													PLFMHLLQRLD
													LLDSNAYS
Mil.1			E	E		Q	K		VD-A		A		
467													
Mil.2			S	E	E	SQ	E		GDAA		I	A	
468													
Rpi-blb2	IALIKE	QIGL	VKED	LEFIR	SFF	PAN	-IEQ	GLYK	DLW	ERVLD	VAYE	AKD	VIDS
478													TIIVRDNGLL
Mil.1			I	IK		I	A	D	P	D		R	T
527													E
Mil.2			I	IK		I	A	D	P	D		R	I
528													E
Rpi-blb2	HLIF	SLPIT	RK	MM	LIKE	EV	SD	LEN	ISK	NR	GLIV	NS	PK
538													PVESKSLTTDKIIVGF
													GEE
Mil.1			S			T	S					R	GC
587													

FIGURE 15

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Mil.2 588		T	S		R		G	D
Rpi-blb2 598	TNLILRKLTSGPADLDVISI	<i>gmpglgkttlaYKVYNDKSVSSHFDLRAWCTVDQVYDEK</i>						
Mil.1 647	NT	S	D			T		ESK
Mil.2 648		T	S	G	D	N	T	L
Rpi-blb2 658	KLLDKIFNQVSDSNSKLS	<i>ENIDVADKLRLKQLFGKryliivlddwDTNTWDELTRPFPDGM</i>						
Mil.1 707		E		N	D	PD		
Mil.2 708		E		N	D	PD	D	T
Rpi-blb2 718	KGSRIILTREKKVALHGKLYT	<i>DLPLMLRLLRSEESWELLEKRAFGNESCPDELDDVGKEI</i>						
Mil.1 767		A	V		R	QSS	S	NS
Mil.2 768		A	V		R	QSS	S	NS
Rpi-blb2 778	AENCKglplvvdlia	<i>gIIAGREKKRSVWLEVVNNLHSPILKNEVEVMKVIETSYDHLDPH</i>						
Mil.1 827		F	TSL	Y	NVYF	A	G	ENM
Mil.2 828		H	W	TPL	YLFTVYL	A	E	GI
Rpi-blb2 838	lkpcillyfasAPKDWVT	<i>TIHELKLIWGFEGFVEKTDMSLEEVVKIYLDLSSSLVICF</i>						
Mil.1 886	YALNF	I			N	F	Q	R
Mil.2 888	ILNF	I			N	F	R	
Rpi-blb2 898	NEIGDYPTCQIhd	<i>ivhdfCLIKARKEKLCDRISAPSDDLPRQISIDYDDDEEHFGLNE</i>						
Mil.1 946	MD			R	I	Q	SV	A
Mil.2 948	MD			R	Q	SV	A	
Rpi-blb2 958	VLEGSNKKRHS	<i>GKHLYSLTINGDELDDHLSDTFHRLRLRLRTIHLSESPIMVKDSLNE</i>						
Mil.1 1006		1		D	Q	Y		2
Mil.2 1008				R	R	Q	Y	F
Rpi-blb2 1018	ICMLNHLRYLSIGTEVKS	<i>SLPLSFSNLWNLEILEVDNKESTLILLPRIWDLVKLOVLETTA</i>						
Mil.1 1066				4			5	
Mil.2 1068				K		RI	LI	S
Rpi-blb2 1078	CSFFDMDADESILIAED	<i>TKLENLTALGELYLSYWKDTEDIFKRLPNLOVLRFRKESWDY</i>						
Mil.1 1126	H	SE			T	S	G	KS
Mil.2 1128	H		C		T	C	G	KS

FIGURE 15 (cont.)

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Rpi-blb2	STEQYWF PKLD FLTELEKLT VDEEESNTND SGSSA AINRPWDFHFPSS LKRLQLHEFFLT									
1138										
				10					11	
M11.1		P		S	H			F	NFN	SI
1186										
M11.2		P		N	S	D	Q		F	N RLLT
1188										
Rpi-blb2	SDSLSTIARLLNL EELXLYRTI INGEENMGEEDTFENLKCLMLSQVILSKWEVGEESFP									
1198										
				12					13	
M11.1	N	K	RG	K	P		S	KI	K	D
1246										
M11.2	N	K	QE	GK	P		P	KI	K	D K ND
1248										
Rpi-blb2	TLEKLELSIDCHNLEEIPSSFGDIYSLKIILVRSPOLENSALKIKEYAEDMRGGDELQIL									
1258										
				14					15	
M11.1		N			1255					
M11.2		N			1257					
Rpi-blb2					GQKDIPLFK	1267				

FIGURE 15 (cont.)

**Figure 16: Multiple Sequence Alignments of Mi1.1, Mi1.2 and Rpi-blb2 nucleic acids**

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CIUSTAL W (1.82) Multiple Sequence Alignments

Sequence format is Pearson
Sequence 1: Mi1.1          3768 bp
Sequence 2: Mi1.2          3774 bp
Sequence 3: Rpi-blb2       3804 bp
Start of Pairwise alignments
Aligning...
Sequences (1:2) Aligned. Score: 95
Sequences (1:3) Aligned. Score: 89
Sequences (2:3) Aligned. Score: 89
Guide tree      file created: [/ebi/externserv/clustalw-
work/interactive/clustalw-20040503-14435620.dnd]
Start of Multiple Alignment
There are 2 groups
Aligning...
Group 1: Sequences:  2      Score:68908
Group 2: Sequences:  3      Score:65855
Alignment Score 66872
CLUSTAL-Alignment file created [/ebi/externserv/clustalw-work/interactive/clustalw-
20040503-14435620.aln]

CIUSTAL W (1.82) multiple sequence alignment

Mi1.1      ATGGAACAAACGAAAAAGATAATGAAGAAAGCAAAACAACTCATTGGTGCTATTTTCTGCTCTT  60
Mi1.2      ATGGAACAAACGAAAAAGATAATGAAGAAAGCAAAACAACTCATTGGTGCTATTTTCTGCTCTT  60
Rpi-blb2   ATGGAACAAACGAAAAAGATAATGAAGAAAGCAAAACAACTCATTGGAGTCATTTTCTGCTCTT  60
*****

```

**Figure 16 (cont.)**

Mi1.1	AGCAAGGACATTGCCGATGTTCTGGTTTCTCTAGAGA-----ATGAGGAAAAATCAA	111
Mi1.2	AGCAAGGACATTGCCAATGTTCTAAATTTCTCTAGAGA-----ATGAGGAAAAATCAA	111
Rpi-blb2	CGCAAGGATGCTGCCAATGTTCTGGATTTCTCTAGAGAGATTAAAGAAATGAAGAAGATCAA	120
	*****	****
	*****	****
	*****	****
Mi1.1	AAAGCTCTTGACAAAAGATCAAGTTGAAAAAGATAAAAATGAAAAATGGCAATTTATTTGTACA	171
Mi1.2	AAAGCTCTTGACAAAAGATCAAGTTGAAAAAGCTAAAAATGAAAAATGGCAATTTATTTGTACA	171
Rpi-blb2	AAAGCTGTTGATGTGGATCTGATTTGAAAGCCTGAAATTTGAAGCTGACATTTATTTGTACA	180
	**	*****
	*****	*****
	*****	*****
Mi1.1	TATGTTTCAGCTTTCTTTGTTCCGATTTTGAGCAGTTTGAAGATATAATGACTAGAAAAAGA	231
Mi1.2	TATGTTTCAGCTTTCTTTATTTCCGATTTTGAGCAGTTTGAAGATATAATGACTAGAAAAAGA	231
Rpi-blb2	TATGTTCCAGCTTTCTTTATTTCCGATTTTGGAGAAAGTTTGAAGATATAATGACTAGAAAAAGA	240
	*****	*****
	*****	*****
	*****	*****
Mi1.1	CAAGAGGTTGAGAAATCTGCTTCAACCACTTTTGGATGATGATG-----	274
Mi1.2	CAAGAGGTTGAGAAATCTGCTTCAATCACTTTTGGATGATGATG-----	274
Rpi-blb2	CAAGAGGTTGAGAAATCTGCTTCAACCAATTTTGGATGATGATGCGCAAGACGTCGGGTGT	300
	*****	*****
	*****	*****
	*****	*****
Mi1.1	-----TCCTTTACTAGCCTCACGAGTAATATGGATGACTGTATCAGCTTGATCATCGT	327
Mi1.2	-----TCCTTTACTAGCCTCACGAGTAATATGGATGACTGTATCAGCTTGATCATCGT	327
Rpi-blb2	AAATATGTCCTTACTAGCCTCGCCGTAATATGGATGACTGTATAAGCTTGATCATCGT	360
	**	*****
	*****	*****
	*****	*****
Mi1.1	TCCTTATAAATCAGATGCCATCATGATGGATGAGCAATTTGGACTTCCTCCTCTTGAATCTC	387
Mi1.2	TCCTTATAAATCAGATGCCATCATGATGGATGAGCAATTTGGACTTCCTCCTCTTGAATCTG	387
Rpi-blb2	TCT---AAATCAGATGCCATCATGATGGATGAGCAATTTGGCTTCCTCCTCTTGAATCTC	417
	***	*****
	*****	*****
	*****	*****

**Figure 16 (cont.)**

Mi1.1	TATCATCTATCCAAGCATCAGGCTGAAAAAGATATTTCCCTGGAGTGACTCAATATGAAGTT	447
Mi1.2	TATCATCTATCCAAGCATCAGGCTGAAAAAGATATTTCCCTGGAGTGACTCAATATGAAGTT	447
Rpi-blb2	TCTCATCTATCCAAGCATCGTGCCTGAAAAAGATGTTTCCCTGGAGTGACTCAATATGAAGTT	477
	* ****	
Mi1.1	CTTCAGAAATATATGTGGCAACATAAAGAGATTTCCATGGGTTGATAGTGAATGGTTGCATT	507
Mi1.2	CTTCAGAAATGTATGTGGCAACATAAAGAGATTTCCATGGGTTGATAGTGAATGGTTGCATT	507
Rpi-blb2	CTTCAGAAATGTATGTGGCAACATAAAGAGATTTCCATGGGTTGATAGTGAATGGTTGCATT	537
	*****	
Mi1.1	AAGCATGAGATGGTTGAGAAATGTCCTTRCCTCTGTTTCAACTCATGGCTGACAGAGTAGGA	567
Mi1.2	AAGCATGAGATGGTTGAGAAATGTCCTTACCTCTGTGTTTCAACTCATGGCTGAAAGAGTAGGA	567
Rpi-blb2	AAGCATGAGATGGTTGAGAAATGTCCTTATCTCTGTGTTTCAACTCATGGCTGAGAGAGTAGGA	597
	*****	
Mi1.1	CACCTCCTTTGGGATGATCAGACTGATGAAGACTCTCGACTCTCCGAGCTAGATGAGGAT	627
Mi1.2	CACCTCCTTTGGGAGGATCAGACTGATGAAGACTCTCGGCTCTCCGAGCTAGATGAGGAT	627
Rpi-blb2	CGCTTCCTTTGGGAGGATCAGGCTGATGAAGACTCTCAACTCTCCGAGCTAGATGAGGAT	657
	* ****	
Mi1.1	GAACAAAAATGATAGAGACTCTCGACTTTTCAAGCTAGCACATCTACTCTTGAAGATCGTT	687
Mi1.2	GAACACAAATGATAGAGACTCTCGACTCTTCCAGCTAACACATCTACTCTTGAAGATGTT	687
Rpi-blb2	GATCAGAAATGATAAAGACCCCTCAACTCTTCAAGCTAGCACATCTACTCTTGAAGATGTT	717
	** **	
Mi1.1	CCGGTGAACCTGGAGGTTATACACATATGTTATACAAACTTGAAGCTTCAACTTCAGCT	747
Mi1.2	CCAACTGAACCTGGAGGTTATGCACATATGTTATACAAATTTGAAGCTTCAACTTCAGCA	747
Rpi-blb2	CCAACTGAATGGAGGTTATGCACATATGTTATATAAACTTTGAAGCTTCAACTTCACA	777
	** ****	
Mi1.1	GAAGTTGGACTCTTCAATTAAGCAGCTTCTAGAAACCTCTCCAGATATCTTGAGGGAATAT	807

**Figure 16 (cont.)**

Mi1.2	GAAGTTGGACGCTTCATTAAAGAGCTCCTGGAAACCTCACCGGATATTCAGAGAAATAT	807
Rpi-blb2	GAAATGGACGCTTCATTAAAGAGCTCCTGGAAACCTCTCGGACATTCACAGAGAAATAT	837
	*** ****	
Mi1.1	CTAATTCCTCTGCAAGAGCACATGGTAACGTATTATACCCCTAGCACCTCAGGGGCTCGA	867
Mi1.2	ATCATTCAACTACAAGAGCATATGTTAACTGTTATTCCCCCTAGCACCTTAGGGGCTCGA	867
Rpi-blb2	CTGATTCATCTACAAGAGCATATGATAACTGTTATTACCCCTAACACTTCAGGGGCTCGA	897
	* **** ** ****	
Mi1.1	AACATTCATGTCATGATGGAATTCCTATTACTTATTCCTTCGATATGCC---	924
Mi1.2	AACATTCATGTCATGATGGAATTCCTATTACTTATTCCTTCGATATGCC---	924
Rpi-blb2	AACATTCATGTCATGATGGAATTCCTATTGATTATTCCTTCGATATGCCGCCCAAGGAC	957
	*****	
Mi1.1	TTTATTCATCATGACAAACCTTTTGTATCTCTTGGATCGTGTGGAGTACTTACCAGGGAG	984
Mi1.2	TTTATTCATCATGACAAACCTTTTGTATCTCTTGGCTCATGTTGGAACACTTACCAGGGAG	984
Rpi-blb2	TTTATTCATCATGACAAACCTTTTGTATCTCTTGGCTCGTGTGTAGCACTTACCAGGGAG	1017
	*****	
Mi1.1	GTATCAACTCTTGTACGTGACTTGGAAAGAGGAACCAAGGAATAAAGAGGGTAATAACCAA	1044
Mi1.2	GTATCGACTCTTGTACGTGACTTGGAAAGAGAAAAATTAAGGAATAAAGAGGGTAATAACCAA	1044
Rpi-blb2	GTATCAACTCTTGTACGCGACTTGGAAAGAGAAAAATTAAGGATTAAGAGAGTACTGACGAA	1077
	*****	
Mi1.1	ACAAAATTGTGCAACCCCTAGACTTGTCTGGAAAAATATTGAACCTCCTCAAGAAAAGATCTCAA	1104
Mi1.2	ACAAAATTGTGCAACCCCTAGACTTGTCTGGAAAAATATTGAACCTCCTCAAGAAAAGATCTCAA	1104
Rpi-blb2	ACAAAATTGTGCAACCCCTAAAGTTCTTGGAAAAATATTGAACCTCCTTAAGGAAAGATCTCAA	1137
	*****	
Mi1.1	CATGTTTATCTGAAAAGCCCTGGATTTCATCTCAATGTTGCTTCCCCCATGATGGACCA	1164
Mi1.2	CATGTTTATCTGAAAAGCCCAATTCATCTCAATGTTGCTTCCCCCATGATGGACCA	1164

Rpi-blb2	CATGTTTATCTGAAAAGTCCCGGATTCATCTCAATATTGCTTCCCCATGAGTGATGGACCT	1197
	***** ** *****	
Mi1.1	CTCTTCATGCATCTTCACACATACACTTAAATGATTTGTTAGATCTTAATGCTTATTC	1224
Mi1.2	CTCTTCATGCATCTTCACACATGCACTTAAATGATTTGTTAGATCTTAATGCTTATTC	1224
Rpi-blb2	CTCTTCATGCATCTGCTACAGAGACACTTAGATGATTTGCTGGATTCCAATGCTTATTC	1257
	***** ** ***** * ***** * ***** * *****	
Mi1.1	ATTGCTTTGATAAAGGAAGAAATCGAGCTGGTGAAGCAAGACCTGAAATTCATAAGATCA	1284
Mi1.2	ATTCTTTGATAAAGGAAGAAATCGAGTTGGTGAGTCAAGAATCGGAATTCATAAGATCA	1284
Rpi-blb2	ATTGCTTTGATAAAGGAACAAATTTGGCTGGTGAAGAAAGACTTGAATTCATAAGATCT	1317
	*** ***** ** * ***** * ***** ** *****	
Mi1.1	TTCTTTTGTGGATGCTG--AGCAAGGATTTGTATAAAGATCTCTGGGCACGTTCTTAGAT	1341
Mi1.2	TTCTTTTGGGATGCTGCTGAGCAAGGATTTGTATAAAGATCTCTGGGCACGTTCTTAGAT	1344
Rpi-blb2	TTTTTCGCGAATATTG--AGCAAGGATTTGTATAAAGATCTCTGGGAACGTTCTTAGAT	1374
	** ** * * ** ***** ** ***** * *****	
Mi1.1	GTGGCTTATGAGGCAAAAGATGTCTATAGATTCAATTAATTGTCGAGATAATGGTCTCTTA	1401
Mi1.2	GTGGCTTATGAGGCAAAAGATGTCTATAGATTCAATTAATTGTCGAGATAATGGTCTCTTA	1404
Rpi-blb2	GTGGCATATGAGGCAAAAGATGTCTATAGATTCAATTAATTGTCGAGATAATGGTCTCTTA	1434
	**** ***** ** ***** ** ***** ** *****	
Mi1.1	CATCTTATTTTCTCACTTCCCATTTACCATAAAGAGATCAAACTTATCAAAAGAGAGATC	1461
Mi1.2	CATCTTATTTTCTCACTTCCCATTTACCATAAAGAGATCAAACTTATCAAAAGAGAGATC	1464
Rpi-blb2	CATCTTATTTTCTCACTTCCCATTTACCATAAAGAGATGATGCTTATCAAAAGAGAGGTC	1494
	***** ** ***** ** ***** * ***** ** *****	
Mi1.1	TCTGCTTTAGATGAGAACATTCCCAAGGACAGAGGTCATAATCGTTGTGAACCTCTCCAAG	1521
Mi1.2	TCTGCTTTAGATGAGAACATTCCCAAGGACAGAGGTCATAATCGTTGTGAACCTCTCCAAG	1524
Rpi-blb2	TCTGATTTACATGAGAACATTTCCAAGAACAGAGGTCATATCGTTGTGAATCTCTCCAAG	1554

**Figure 16 (cont.)**

```

**** **** ***** **** * **** * **** * **** * **** * **** * **** *
Mi1.1 AAACCAGTTGAGAGAAAAGTCATTGACAACTGATAAAAATAACTGTAGGTTTGAGGAGGAA 1581
Mi1.2 AAACCAGTTGAGAGAAAAGTCATTGACAACTGATAAAAATAATGTAGGTTTGAGGAGGAG 1584
Rpi-blb2 AAACCAGTTGAGAGCAAGTCATTGACAACTGATAAAAATAATGTAGGTTTGAGGAGGAG 1614
***** **** * **** * **** * **** * **** * **** * **** * **** *
Mi1.1 ACAAACTTGATACTTAGAAAGCTCACCAAGTCAGGAGATCGGCAGATCTAGATGTCATTTTCGATC 1641
Mi1.2 ACAAACTTGATACTTAGAAAGCTCACCAAGTCAGGAGTCGACCCGAGATTTAGATGTCATTTTCGATC 1644
Rpi-blb2 ACAAACTTGATACTTAGAAAGCTCACCAAGTCAGGAGTCGACCCGAGATCTAGATGTCATTTTCGATC 1674
***** **** * **** * **** * **** * **** * **** * **** * **** *
Mi1.1 ACTGGTATGCCGGGTTCAGGTAAAACTACTTTGGCATAACAAAGTATACAATGATAAGTCA 1701
Mi1.2 ACCGGTATGCCGGGTTCAGGTAAAACTACTTTGGCATAACAAAGTATACAATGATAAGTCA 1704
Rpi-blb2 ATTGGTATGCCGGGTTTAGGTAAAACTACTTTGGCGTACAAAGTATACAATGATAAAATCA 1734
* **** * **** * **** * **** * **** * **** * **** * **** * **** *
Mi1.1 GTTTC TAGCCGTTTCGACCTTCGTGCATGGTGCACGGTCGACCAAGGATGTGATGAGAAG 1761
Mi1.2 GTTTC TAGACATTTTGACCTTCGTGCATGGTGCACGGTCGATCAAGGATATGACGACAAG 1764
Rpi-blb2 GTTTC TAGCCATTTTCGACCTTCGTGCATGGTGCACGGTCGACCAAGTATATGACGAGAAG 1794
***** * **** * **** * **** * **** * **** * **** * **** * **** *
Mi1.1 AAGTTGTTGAATACAAATTTTCAGTCAAGTTAGTGACTCAGATTCAAATTCAGTGAGAAT 1821
Mi1.2 AAGTTGTTGGATACAAATTTTCAGTCAAGTTAGTGGCTCAGATTCAAATTCAGTGAGAAT 1824
Rpi-blb2 AAGTTGTTGGATAAAATTTTCAATCAAGTTAGTGACTCAAAATTCAAATTCAGTGAGAAT 1854
***** * **** * **** * **** * **** * **** * **** * **** * **** *
Mi1.1 ATTGATGTTGCTGATAAAATTACGGAAACAACTGTTTGGAAAGAGGTATCTTATGTCTTA 1881
Mi1.2 ATTGATGTTGCTGATAAAATTGCGGAAACAACTGTTTGGAAAGAGGTATCTTATGTCTTA 1884
Rpi-blb2 ATTGATGTTGCTGATAAACTACGGAAACAAATGTTTGGAAAGAGGTATCTTATGTCTTA 1914
***** **** * **** * **** * **** * **** * **** * **** * **** *
```

**Figure 16 (cont.)**

Mi1.1	GATGACGTGTGGGATACCTACTACATGGGATGAGTTAAACAAGACCTTTTCCTGAATCTAAG	1941
Mi1.2	GATGATGTGTGGGATACCTACTACATGGATGGATGGATTGACAAGACCTTTTCCTGAAGCTAAG	1944
Rpi-blb2	GATGACGTGTGGGATACCTAAATACATGGGATGGATGAGCTAACAAAGACCTTTTCCTGATGGTATG	1974
	*****	** *
Mi1.1	AAAGGAAGTAGGATTATTTTGACAACTCGGAAAAAGGAAGTGGCTTTGCAATGGAAAAAGCTG	2001
Mi1.2	AAAGGAAGTAGGATTATTTTGACAACTCGAGAAAAAGGAAGTGGCTTTGCAATGGAAAAAGCTG	2004
Rpi-blb2	AAAGGAAGTAGAATTATTTTGACAACTCGAGAAAAAGGAAGTGGCTTTGCAATGGAAAAAGCTC	2034
	*****	*****
Mi1.1	AACACTGATCCTCTTTGACCTTCGATTGCTAAGACCAGATGAAAGTTGGGAACATTATAGAG	2061
Mi1.2	AACACTGATCCTCTTTGACCTTCGATTGCTAAGACCAGATGAAAGTTGGGAACTTTATAGAT	2064
Rpi-blb2	TACACTGATCCTCTTTAACCTTCGATTGCTAAGATCAGAAAGAAAGTTGGGAGTTATATAGAG	2094
	*****	*****
Mi1.1	AAAAAGGCATTTTGGGAATGAGAGTTGCCCTGATGAACATTATAGATGTCGGTAAAGAAAATA	2121
Mi1.2	AAAAAGGACATTTTGGTAATGAGAGTTGCCCTGATGAACATTATAGATGTCGGTAAAGAAAATA	2124
Rpi-blb2	AAAAAGGCATTTTGGAAACGAGAGTTGCCCTGATGAACATTATAGATGTTGGTAAAGAAAATA	2154
	*****	*****
Mi1.1	GCCGAAAAATTGTAAAGGGCTTCCTTTGGTGGCTGATCTGATTCGCTGGAGTCATTGCTGGG	2181
Mi1.2	GCCGAAAAATTGTAAAGGGCTTCCTTTGGTGGCTGATCTGATTCGCTGGAGTCATTGCTGGG	2184
Rpi-blb2	GCCGAAAAATTGTAAAGGGCTTCCTTTGGTGGTGGATCTGATTCGCTGGAAATCATTCGCTGGG	2214
	*****	*****
Mi1.1	AGGGAAGAAAAAGGAGTGTGTGGCTTGAAGTTCAAAGTAGTTTGAGTTCTTTTATTTTG	2241
Mi1.2	AGGGAAGAAAAAGGAGTGTGTGGCTTGAAGTTCAAAGTAGTTTGAGTTCTTTTATTTTG	2244
Rpi-blb2	AGGGAAGAAAAAGAGTGTGTGGCTTGAAGTTGTAATAAATTTGCATTCCTTTATTTTG	2274
	*****	*****

**Figure 16 (cont.)**

Mi1.1	AACAGTGAAGTGAAGTGATGAAGTTATAGAAATTAAGTTATGACCAATTACCACATCAC	2301
Mi1.2	AACAGTGAAGTGAAGTGATGAAGTTATAGAAATTAAGTTATGACCAATTACCACATCAC	2304
Rpi-blb2	AAGAAATGAAGTGAAGTGATGAAGTTATAGAAATTAAGTTATGACCACTTACCTGATCAC	2334
	** * *****	*****
Mi1.1	CTCAAGCCCATGCTTGC TTGTAATTTGCAAGTTTCCGAAGGACACTTCATTGACAATCTAT	2361
Mi1.2	CTCAAGCCCATGCTTGC TTGTAATTTGCAAGTTTGGCCGAAGGACACTCTTTTGACAATCTAT	2364
Rpi-blb2	CTGAAGCCCATGCTTGC TTGTAATTTGCAAGTTGCGCCGAAGGACTGGGTAAACGACAATCCAT	2394
	** *****	*****
	*** * ** **	*****
Mi1.1	GAGTTGAATGTTTATTTTCGGTGCCTGAAGGATTTGTGGGAAAGACGGAGATGAACAGTATG	2421
Mi1.2	TTGTTTACTGTTTATTTTGGTGGCTGAAGGATTTGTGGGAAAGACGGAGATGAAGGGTATA	2424
Rpi-blb2	GAGTTGAAACCTTATTTGGGGTTTGAAGGATTTGTGGGAAAGACAGATATGAAGAGTCTG	2454
	*** * ** **	*****
	*****	*****
Mi1.1	GAAGAAGTGGTGAAGATTTTATATGGATGATTTAATTTACAGTAGCTTGGTAATTTGTTTC	2481
Mi1.2	GAAGAAGTGGTGAAGATTTTATATGGATGATTTAATTTCCAGTAGCTTGGTAATTTGTTTC	2484
Rpi-blb2	GAAGAAGTGGTGAAGATTTTATTTGGATGATTTAATTTCCAGTAGCTTGGTAATTTGTTTC	2514
	*****	*****
	*****	*****
Mi1.1	AATGAGATAGGTTATGCACCTGAATTTCCAAATTCATGATCTTGTGCATGACTTTGTTTG	2541
Mi1.2	AATGAGATAGGTTATGATATACCTGAATTTCCAAATTCATGATCTTGTGCATGACTTTGTTTG	2544
Rpi-blb2	AATGAGATAGGTTATGATACCTGACTTGCCTGATGATCTTGTGCATGACTTTGTTTG	2574
	*****	*****
	*****	*****
Mi1.1	ATAAAGCAAGAAAGGAAAAATTTGTTGATCAGATAAGATCAAGTGCTCCATCAGATTG	2601
Mi1.2	ATAAAGCAAGAAAGGAAAAATTTGTTGATCGGATAAGATCAAGTGCTCCATCAGATTG	2604
Rpi-blb2	ATAAAGCAAGAAAGGAAAAATTTGTTGATCGGATAAGATCAAGTGCTCCATCAGATTG	2634
	*****	*****
	*****	*****
Mi1.1	TTGCCCTCGTCAAAATTACCATTGATTTGTGATGAGGAGGAG---CACTTTGGGCTTAATTTT	2658

## Annotated Sheet Showing Changes

53/62**Figure 16 (cont.)**

Mi1.2	TTGCCCTCGTCAAAATTACCAATTGATTATGATGAGGAGGAGCACTTTGGGCTTAATTTT	2664
Rpi-blb2	TTGCCACGTCAAAATTAGCATTGATTATGATGATGAAGAGCACTTTGGGCTTAATTTT	2694
	*****	*****
Mi1.1	GTCAATGTTTCGATTCAAATAAGAAAAGGCATTTCTGGTAAACACCTCTATTCTTTGAGGATA	2718
Mi1.2	GTCAATGTTTCGATTCAAATAAGAAAAGGCATTTCTGGTAAACACCTCTATTCTTTGAGGATA	2724
Rpi-blb2	GTCCCTGTTTCGGTTCAAATAAGAAAAGGCATTTCCGGTAAACACCTCTATTCTTTGACCATA	2754
	*****	*****
Mi1.1	ATTGGAGACCAGCTGGATGACAGTGTTCCTGATGCATTTTCACCTAAGACACTTGAGGCCTT	2778
Mi1.2	AATGGAGACCAGCTGGATGACAGTGTTCCTGATGCATTTTCACCTAAGACACTTGAGGCCTT	2784
Rpi-blb2	AATGGAGATGAGCTGGACGACCATCTTCTTGATACATTTTCATCTAAGACACTTGAGGCCTT	2814
	* *****	*****
Mi1.1	CTTAGAGTGTGGACCTGCATACGTCCTTTTATCATGGTGAAAGATTCTTTGCTGAATGAA	2838
Mi1.2	ATTAGAGTGTGGACCTGGAACCCCTCTTTAATCATGGTGAAATGATTCCTTTGCTGAATGAA	2844
Rpi-blb2	CTTAGAACCCTTGCACCTGGAATCCTCTTTATCATGGTTAAAGATTCTTTGCTGAATGAA	2874
	*****	*****
Mi1.1	ATATGCATGTTGAATCATTTTGAGGTACTTATCCATTGACACACACAAGTTAAATATCTGCCT	2898
Mi1.2	ATATGCATGTTGAATCATTTTGAGGTACTTAAAGAAATCGGACACACAAGTTAAATATCTGCCT	2904
Rpi-blb2	ATATGCATGTTGAATCATTTTGAGGTACTTAAAGCATTGGGACAGAAAGTTAAATCTCTGCCT	2934
	*****	*****
Mi1.1	TTGTCCTTCTCAAACCTCTGGAATCTAGAAAAGCCTGTTTGTGTCTACCAACAGATCAATC	2958
Mi1.2	TTCTCTTTCTCAAACCTCTGGAATCTAGAAAAGTCTGTTTGTGTCTAACAAGGATCAATC	2964
Rpi-blb2	TTGTCCTTCTCAAACCTCTGGAATCTAGAAAATCTTGTTTGTGGATAACAAGAAATCAACC	2994
	** *****	*****
Mi1.1	TTGGTACTATTACCGAGAATTTTGGATCTTGTAAGTTGCGAGTGTCTCCGTGGATGCT	3018
Mi1.2	TTGGTACTATTACCGAGAATTTTGGATCTTGTAAGTTGCGAGTGTCTCCGTGGGTGCT	3024

**Figure 16 (cont.)**

Rpi-blb2	TTGATACTATTACCGAGAAATTTGGGATCTTGTAAGTTGCAAGTGTCTCAGGACTGCT	3054
	*** *****	*** *
Mi1.1	TGTTCTTTCTTTGATATGGATGCAGATGAATCAATATTGATAGCAGAGGACACAAAGTTA	3078
Mi1.2	TGTTCTTTCTTTGATATGGATGCAGATGAATCAATATTGATAGCAAGGACACAAAGTTA	3084
Rpi-blb2	TGTTCTTTCTTTGATATGGATGCAGATGAATCAATATTGATAGCAGAGGACACAAAGTTA	3114
	*****	*****
Mi1.1	GAGAACTTGAGAAATATTAAACGGAACTGTTGATTTCCCTATTTCGAAAGATACAAAAGATATT	3138
Mi1.2	GAGAACTTGAGAAATATTAGGGGAACGTGTTGATTTCCCTATTTCGAAAGATACAAATGAATATT	3144
Rpi-blb2	GAGAACTTGACAGCATTAGGGGAACTCGTGCTTTCCCTATTTCGAAAGATACAGAGGATATT	3174
	***** *	***** *
Mi1.1	TTCAAAAAGGTTTCCCAATCTTCAGTTGCTTTTCATTTGAACTCAAGGAGTCATGGGATTAT	3198
Mi1.2	TTCAAAAAGGTTTCCCAATCTTCAGGTGCTTCAGTTTGAACCTCAAGGAGTCATGGGATTAT	3204
Rpi-blb2	TTCAAAAAGGCTTCCCAATCTTCAAGTGCTTCATTTCAAACCTCAAGGAGTCATGGGATTAT	3234
	*****	*****
Mi1.1	TCAACAGAGCAACATTGGTTCTCGGAATTGGATTTCCTTAACCTGAACTAGAAACACTCTCT	3258
Mi1.2	TCAACAGAGCAACATTGGTTCCCGAAATTGGATTGCCCTAAGTGAACCTAGAAACACTCTGT	3264
Rpi-blb2	TCAACAGAGCAATATTGGTTCCCGAAATTGGATTTCCTTAACCTAGAACTAGAAACACTCACT	3294
	*****	***** *
Mi1.1	GTAGGTTTTAAAAGTTCAAACACAAACGATAGTGGGTCCCTCTGTAGCGACAAATCGGCCG	3318
Mi1.2	GTAGGTTTTAAAAGTTCAAACACAAACCCACTGTGGGTCCCTCTGTGTGACAAATCGGCCG	3324
Rpi-blb2	GTAGATTTTGAAAGATCAAACACAAATGACAGTGGGTCCCTCTGTGAGCCATAAATCGGCCA	3354
	*****	***** *
Mi1.1	TGGGATTTTCACTTCCCTTCAAATTTGAAAAATACGTGTGGTTGCGTGAATTTCCGCTGACA	3378
Mi1.2	TGGGATTTTCACTTCCCTTCAAATTTGAAAAAGACTGTTGTTGTATGACTTCCCTCTGACA	3384
Rpi-blb2	TGGGATTTTCACTTCCCTTCGAGTTTGAAAAAGATTGCAATTGCATGAATTTCCCTCTGACA	3414

[illegible]

**Figure 16 (cont.)**

Mi1.1	GGCCAAAAGAATATCCCCTTATTTAAGTAG	3768
Mi1.2	GGCCAGAAGAATATCCCCTTATTTAAGTAG	3774
Rpi-blb2	GGCCAGAAGGATATCCCCTTATTTAAGTAG	3804
	*****	

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**Figure 17: Multiple Sequence Alignments of Mi1.1, Mi1.2 and Rpi-blb2 proteins**

```
CLUSTAL W (1.82) Multiple Sequence Alignments

Sequence format is Pearson
Sequence 1: Mi1.1      1255 aa
Sequence 2: Mi1.2      1257 aa
Sequence 3: Rpi-blb2    1267 aa
Start of Pairwise alignments
Aligning...
Sequences (1:2) Aligned. Score: 91
Sequences (1:3) Aligned. Score: 82
Sequences (2:3) Aligned. Score: 81
Guide tree file created: [ /ebi/externserv/clustalw-work/interactive/clustalw-20040503-14322840.dnc,
Start of Multiple Alignment
There are 2 groups
Aligning...
Group 1: Sequences: 2      Score:25939
Group 2: Sequences: 3      Score:24668
Alignment Score 19405
CLUSTAL-Alignment file created [ /ebi/externserv/clustalw-work/interactive/clustalw-20040503-14322840.aln]

CLUSTAL W (1.82) multiple sequence alignment

Mi1.1      MEKRDNEEANNLSVLFSALSKDIADVILVFLE---NEENQKALDKDQVEKIKLKMAFICT 57
```

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**Figure 17 (cont.)**

Mi 1.2	MEKRKIDEEANNLSVLSALSKDIANVLI FLE---NEENQKALDKDQVEKIKLKMAFICT	57
Rpi-blb2	MEKRKIDEEANNLSVLSALSALRKDAANVLD FLERLKNEEDQKAVDVVDLIESLKLKLT FICT	60
	*****	
Mi 1.1	YVQLSCSDFEQFEDIMTRKRQEVENLLQPLLLDDD-----VFTSLTSNMDDCISLYHR	109
Mi 1.2	YVQLSYSDFEQFEDIMTRNRQEVENLLQSLLLDDD-----VLTSLTSNMDDCISLYHR	109
Rpi-blb2	YVQLSYSDLEKFEDIMTRKRQEVENLLQPI LDDDDGKDVGCKYVLTSLAGNMDDCISLYHR	120
	*****	
Mi 1.1	SYKSDAIMMDEQLDFLLNLNLYHLSKHHA EKI FPGVTQYEV LQNICGNIRD F HGLIVNGCI	169
Mi 1.2	SYKSDAIMMDEQLDFLLNLNLYHLSKHHA EKI FPGVTQYEV LQNVCGNIRD F HGLILNGCI	169
Rpi-blb2	S-KSDATMMDEQLGFL LNLNLSHLSKHRA EKMPGVTQYEV LQNVCGNIRD F HGLIVNCCI	179
	*****	
Mi 1.1	KHEMVENVLP L FQ LMA DRVGHFLWDDQTD EDSRLSELDEDEQND RDSRLFKIAHL L LKIV	229
Mi 1.2	KHEMVENVLP L FQ LMA ERVGHFLWEDQTD EDSRLSELDEDEHND RDSRL FQ LTHL L LKIV	229
Rpi-blb2	KHEMVENVLSL FQ LMA ERVGRFLWEDQADEDSQLSELDEDDQNDKDPQ LFKIAHL L LKIV	239
	*****	
Mi 1.1	PVELEVIHICYTNLKASTSAEVLGFIKQLLETS PDILREYLIPLQEHMVTVITPSTSGAR	289
Mi 1.2	PTELEVMIHICYTNLKASTSAEVRGFIKKLLETS PDILREYIIQLQEHMLTVIPSTLGAR	289
Rpi-blb2	PTELEVMIHICYKTLKASTSTEIGRFIKKLETS PDILREYLIHLQEHMITVITPNTSGAR	299
	*****	
Mi 1.1	NIHVMMEFLLIILSDMP-KDFIHHDKLFDLLDRVGVLTR EVSTLV RDLEEEPRNKEGNNQ	348
Mi 1.2	NIHVMMEFLLIILSDMP-KDFIHHDKLFDLLAHVGTLTR EVSTLV RDLEEKLRNKEGNNQ	348
Rpi-blb2	NIHVMMEFLLIILSDMPPKDFIHHDKLFDLLARVVALTR EVSTLV RDLEEKLRKESTDE	359
	*****	
Mi 1.1	TNCATLDLLENIELKKDLKHVYLKALDSSQCCFPMSDGP LFMHLLIHIHNDL L DSNAYS	408
Mi 1.2	TNCATLDLLENIELKKDLKHVYLKAPNSQCCFPMSDGP LFMHLLHMHNLNDL L DSNAYS	408

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**Figure 17 (cont.)**

Rpi-blb2	TNCATLKFLLENIELLKEDLKHVYLKVPDSSQYCFPMSDGPLFMHLLQRLHLLDLDLDSNAYS 419 *****.:*****:*****.:*** *****:***:*****
Mi1.1	IALIKEEIELVKQDLKFIIRFFVD-AEQGLYKDLWARVLDVAYEAKDVIDSIIVRDNGLL 467
Mi1.2	ISLKEEIELVSQELEFIIRFFGDAAEQGLYKDIWARVLDVAYEAKDVIDSIIVRDNGLL 468
Rpi-blb2	IALIKEQIGLVKEDLEFIIRFFAN-IEQGLYKDLWERVLDVAYEAKDVIDSIIVRDNGLL 478 *.*.*.*.* **.:**.*.*.*.*: *****: *****
Mi1.1	HLIFSLPITIKIKLIKKEEISALDENI PKDRGLIVVNSPKKPVERKSITTDKIITVGFEEE 527
Mi1.2	HLIFSLPITIKIKLIKKEEISALDENI PKDRGLIVVNSPKKPVERKSITTDKIIVGFEEE 528
Rpi-blb2	HLIFSLPITRKKMMLIKEEVSDLHENI SKNRGLIVVNSPKKPVERKSITTDKIIVGFEEE 538 ***** **.:*****.*.*.*.*.:*****:***** ** *
Mi1.1	TNLI LRKLTSGSADLDVISITGMPGSGKTTLAYKVYNDKSVSRFDLRAWCTVDQGCDEK 587
Mi1.2	TNLI LRKLTSGPADLDVISITGMPGSGKTTLAYKVYNDKSVSRHFDLRAWCTVDQGYDDK 588
Rpi-blb2	TNLI LRKLTSGPADLDVISIIGMPGLGKTTLAYKVYNDKSVSHFDLRAWCTVDQVYDEK 598 *****.:***** ***** *****:***** *.*
Mi1.1	KLNTIFSQVSDSKLSENIDVADKLKQKQKRYLIVLDDVDWDTTWDDELTRPFPEK 647
Mi1.2	KLDTIFSQVSGSDNISENIDVADKLKQKQKRYLIVLDDVDWDTTLDDELTRPFPEAK 648
Rpi-blb2	KLDDKIFNQVSDSNSKLESENIDVADKLKQKQKRYLIVLDDVDWDTNTWDDELTRPFPDGM 658 ***:*.*.***.*.*.:*****:*****:*****.* *****:.
Mi1.1	KGSRIILTTRKEVALHGKINTDPLDLRLRPDESWELEKRAFNESCPDELLDVGKEI 707
Mi1.2	KGSRIILTTRKEVALHGKINTDPLDLRLRPDESWELEKRTFGNESCPDELLDVGKEI 708
Rpi-blb2	KGSRIILTTRKEKKVALHGKLYTDPLNLRLLRSEESWELEKRAFNESCPDELLDVGKEI 718 *****:***** *****:*****.:*****:*****:*****
Mi1.1	AENCKGLPLVADLLIAGVIAGREKKRSVWLEVQSSLSFFINSEVEVMKVI ELSYDHLPHH 767
Mi1.2	AENCKGLPLVADLLIAGVIAGREKKRSVWLEVQSSLSFFINSEVEVMKVI ELSYDHLPHH 768
Rpi-blb2	AENCKGLPLVVDLLIAGIAGREKKRSVWLEVVNNLHSFILKNEVEVMKVI ELSYDHLPDH 778

**Figure 17 (cont.)**

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***** . *****:*****:***** . * *****:*****:***** *
Mi 1.1 LKPCLLYFASFPKDTSLTIYELNVYFGAEGFVGKTEMNSMEEVVKIYMDDLIYSSLVICF 827
Mi 1.2 LKPCLLHFASWPKDTPTIYLFYLGAEFGEKTEMKGIEEVVKIYMDDLISSLVICF 828
Rpi-blb2 LKPCLLYFASAPKDWTTIHCLKIWGFEGVEKTMKSLEEVVKIYLDLSSLVICF 838
*****:*** * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Mi 1.1 NEIGYALNFQIHDLVHDFCLIKARKENLFDQIRSSAPSDLLPRQITIDCDEEE-HFGINF 886
Mi 1.2 NEIGDIILNFQIHDLVHDFCLIKARKENLFDRISSAPSDLLPRQITIDYDEEEHFGINF 888
Rpi-blb2 NEIGDYPTCQLHDLVHDFCLIKARKEKLCDRISAPSDLLPRQISIDYDDDEEHFGINF 898
***** . *:*****:*****:*****:*****:*****:*****:*****:*****
Mi 1.1 VMFDSNKKRHSGKHLYSRLRIGDQLDDSVSDAFHLRHLRLRLVLDLHSTFIMVKDSLNE 946
Mi 1.2 VMFDSNKKRHSGKHLYSRLRIGDQLDDSVSDAFHLRHLRLRLVLDLHSTFIMVKDSLNE 948
Rpi-blb2 VLFSGNKKRHSGKHLYSRLTINGDELDDHLSDTFHLRHLRLRLVLDLHSTFIMVKDSLNE 958
*.*.*****:*****:*****:*****:*****:*****:*****:*****:*****
Mi 1.1 ICMLNHLRYLSIDTQVKYLPFSFNLWNLESFVSTNRSILVLLPRILDVLRVLSVDA 1006
Mi 1.2 ICMLNHLRYLRITQVKYLPFSFNLWNLESFVSNKGSILVLLPRILDVLRVLSVGA 1008
Rpi-blb2 ICMLNHLRYLSIGTEVKSLPLSFSNLWNLEILFVDNKESTLILPRWDLVKLQVLTFTA 1018
***** * * * * * * * * * * * * * * * * * * * * * * * * * * * *
Mi 1.1 CSFFDMDADESILIAEDTKLENLRILTELLISYSKDTKNIFKRFPNLQLLSFELKESWDY 1066
Mi 1.2 CSFFDMDADESILIAKDTKENLRILGELLISYSKDTMNIKRFPNLQVLQFELKESWDY 1068
Rpi-blb2 CSFFDMDADESILIAEDTKLENLTALGELVLSYWKDTEIDFKRLPNLQVLHFKLKESWDY 1078
*****:*****:***** * * * * * * * * * * * * * * * * * * * * * *
Mi 1.1 STEQHWFSELDFTLETLVSGFKSSNTNDSGSSVATNRPWDFHFPNKLKILWLREFPLT 1126
Mi 1.2 STEQHWFPKLDCLTELETLCVGFKSSNTNHCGSSVVTNRPWDFHFPNKLKELLYDFPLT 1128
Rpi-blb2 STEQYWFPKLDFLLEKLTVDERSNTNDSGSSAAINRPWDFHFPSSIKRIQLHEFFPLT 1138
*****:***:*** * * * * * * * * * * * * * * * * * * * * * * *
```

**Figure 17 (cont.)**

Mi 1.1	SDSLSTIARLPNLEELSLYHTIIHGEEWNMGEEDTFENLKFLNFQVSI SKWEVGEESFP	1186
Mi 1.2	SDSLSTIARLPNLEENLSYDTIIQGEENMGEEDTFENLKFLNRLTLT SKWEVGEESFP	1188
Rpi-blb2	SDSLSTIARLNLLEELLYRTIIHGEEWNMGEEDTFENLKCLMLSQVILSKWEVGEESFP	1198
	***** * * * * : *****	
Mi 1.1	NLEKLRGCHKLEETPPSFGDIYSLKSIKIVKSPQLEDSALKIKIKEYAEDMRGGDELQIL	1246
Mi 1.2	NLEKLRQECGKLEETPPSFGDIYSLKFIKIVKSPQLEDSALKIKIKEYAEDMRGGNDLQIL	1248
Rpi-blb2	TLEKLELSDCHNLEETPPSFGDIYSLKIEIVRSPQLENSALKIKIKEYAEDMRGGDELQIL	1258
	. ***** * * : ***** : *****	
Mi 1.1	GQKNIPLEK	1255
Mi 1.2	GQKNIPLEK	1257
Rpi-blb2	GQKDIPLEK	1267
	*** : *****	

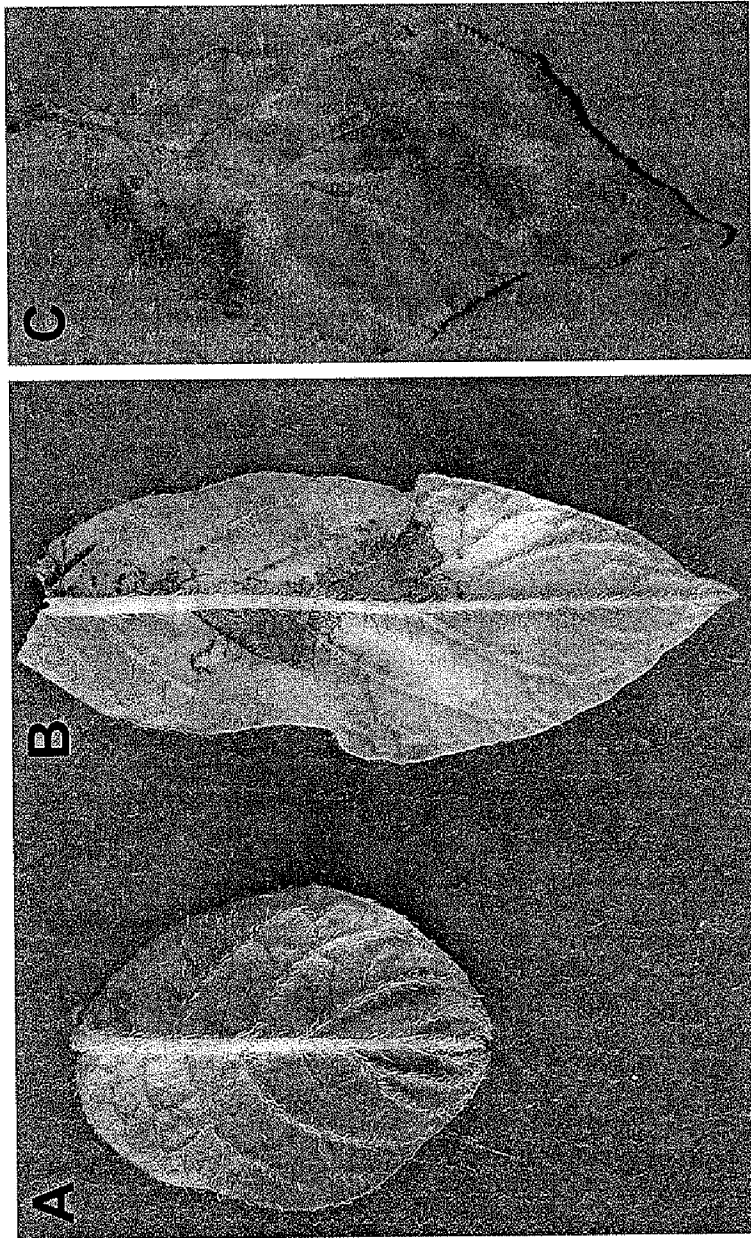


Figure 18